TEST REPORT

Report No. .....:	**CTC2025018010**
FCC ID.....:	**2BNWDCVR-655-128C**
Applicant .....:	**Avantis Education Limited**
Address.....:	Unit 2 & 3 Jessop Court, Waterwells Business Park, Quedgeley, Gloucester, GL2 2AP UK
Manufacturer.....:	SHENZHEN SKYWORTH NEW WORLD TECHNOLOGY CO.,LTD.
Address.....:	508, Block A,SKYWORTH Building, Gaoxin AVE. 1.S Nanshan District, ShenZhen, China.
Product Name .....:	**VR Headset**
Trade Mark .....:	CLASSVR
Model/Type reference.....:	CVR-655-128C
Listed Model(s).....:	CVR-655-128
Standard .....:	**FCC CFR Title 47 Part 15 Subpart C Section 15.247**
Test Report Form No .....:	CTC-TR-059_A1
Master TRF.....:	Dated 2024-09-20
Date of receipt of test sample.....:	Feb. 24, 2025
Date of testing.....:	Feb. 24, 2025 ~ Mar.21, 2025
Date of issue.....:	Mar. 26, 2025
Result.....:	**PASS**

Compiled by: (Printed name+signature)	Lucy Lan	Lucy Lan
Supervised by: (Printed name+signature)	Eric Zhang	Eric Zhang
Approved by: (Printed name+signature)	Totti Zhao	Totti Zhao

This test report may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product endorsement by CTC. The Test Result in the report only apply to the tested sample. The test report shall be invalid without all the signatures of testing engineers, reviewer and approver. Any objections must be raised to CTC within 15 days since the date when the report is received. It will not be taken into consideration beyond this limit.

Table of Contents Page

1. TEST SUMMARY 3

1.1. TEST STANDARDS 3
1.2. REPORT VERSION 3
1.3. TEST DESCRIPTION 3
1.4. TEST FACILITY 4
1.5. MEASUREMENT UNCERTAINTY 5
1.6. ENVIRONMENTAL CONDITIONS 5

2. GENERAL INFORMATION 6

2.1. CLIENT INFORMATION 6
2.2. GENERAL DESCRIPTION OF EUT 6
2.3. ACCESSORY EQUIPMENT INFORMATION 8
2.4. OPERATION STATE 9
2.5. MEASUREMENT INSTRUMENTS LIST 10

3. TEST ITEM AND RESULTS 11

3.1. CONDUCTED EMISSION 11
3.2. RADIATED EMISSION 14
3.3. BAND EDGE EMISSIONS (RADIATED) 28
3.4. BAND EDGE AND SPURIOUS EMISSIONS (CONDUCTED) 41
3.5. 20DB BANDWIDTH 56
3.6. CHANNEL SEPARATION 63
3.7. NUMBER OF HOPPING CHANNEL 65
3.8. DWELL TIME 67
3.9. PEAK OUTPUT POWER 75
3.10. DUTY CYCLE 79
3.11. ANTENNA REQUIREMENT 80

1. TEST SUMMARY

1.1. Test Standards

The tests were performed according to following standards:

FCC Rules Part 15.247: Operation within the bands 902–928MHz, 2400–2483.5MHz, and 5725–5850MHz.

ANSI C63.10-2013: American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

1.2. Report Version

Revised No.	Report No.	Date of issue	Description
01	CTC2025018010	Mar. 26, 2025	Original

1.3. Test Description

FCC Part 15 Subpart C (15.247)			
Test Item	**Standard Section**	**Result**	**Test Engineer**
Antenna Requirement	15.203	Pass	Marrow
Conducted Emission	15.207	Pass	Marrow
Restricted Bands	15.205	Pass	Marrow
Hopping Channel Separation	15.247(a)(1)	Pass	Marrow
Dwell Time	15.247(a)(iii)	Pass	Marrow
Peak Output Power	15.247(b)(1)	Pass	Marrow
Number of Hopping Frequency	15.247(a)(iii)	Pass	Marrow
Conducted Band Edge and Spurious Emissions	15.247(d)	Pass	Marrow
Radiated Band Edge and Spurious Emissions	15.205&15.209& 15.247(d)	Pass	Marrow
Radiated Spurious Emission	15.247(d) &15.209	Pass	Marrow
20dB Bandwidth	15.247(a)	Pass	Marrow

Note:

1. The measurement uncertainty is not included in the test result.
2. N/A: means this test item is not applicable for this device according to the technology characteristic of device.

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

1.4. Test Facility

Address of the report laboratory

CTC Laboratories, Inc.

Add: Room 101 of Building B, Room 107, 108, 207, 208 of Building A, No. 7, Lanqing 1st Road, Luhu Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China

Laboratory accreditation

The test facility is recognized, certified, or accredited by the following organizations:

A2LA-Lab Cert. No.: 4340.01

CTC Laboratories, Inc. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

Industry Canada (Registration No.: 9783A, CAB Identifier: CN0029)

CTC Laboratories, Inc. EMC Laboratory has been registered by Certification and Engineer Bureau of Industry Canada for the performance of with Registration NO.: 9783A on Jan, 2016.

FCC (Registration No.: 951311, Designation Number CN1208)

CTC Laboratories, Inc. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 951311, Aug 26, 2017.

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

1.5. Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01 “Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 1” and TR-100028-02 “Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 2” and is documented in the CTC Laboratories, Inc. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Below is the best measurement capability for CTC Laboratories, Inc.

Test Items	Measurement Uncertainty	Notes
20dB Emission Bandwidth	±0.0196%	(1)
Carrier Frequency Separation	±1.9%	(1)
Number of Hopping Channel	±1.9%	(1)
Time of Occupancy	±0.028%	(1)
Max Peak Conducted Output Power	±0.743 dB	(1)
Band-edge Spurious Emission	±1.328 dB	(1)
Conducted RF Spurious Emission	9kHz-1GHz: ±0.746dB 1GHz-26GHz: ±1.328dB	(1)
Conducted Emissions 9kHz~30MHz	±3.08 dB	(1)
Radiated Emissions 30~1000MHz	±4.51 dB	(1)
Radiated Emissions 1~18GHz	±5.84 dB	(1)
Radiated Emissions 18~40GHz	±6.12 dB	(1)

Note (1): This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

1.6. Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15 °C to 35 °C
Relative Humidity:	20 % to 75 %
Air Pressure:	101 kPa

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

2. GENERAL INFORMATION

2.1. Client Information

Applicant:	Avantis Education Limited
Address:	Unit 2 & 3 Jessop Court, Waterwells Business Park, Quedgeley, Gloucester, GL2 2AP UK
Manufacturer:	SHENZHEN SKYWORTH NEW WORLD TECHNOLOGY CO.,LTD.
Address:	508, Block A,SKYWORTH Building, Gaoxin AVE. 1.S Nanshan District, ShenZhen, China.
Factory:	Shenzhen Skyworth Digital Technology Co.,LTD. Baoan Factory
Address:	2-5F,Integration Multi-Storied Building, Skyworth Science and Technology Industrial Park, Tangtou Industrial Zone, Shiyan Street, Baoan District, Shenzhen city, China.

2.2. General Description of EUT

Product Name:	VR Headset
Trade Mark:	CLASSVR
Model/Type reference:	CVR-655-128C
Listed Model(s):	CVR-655-128
Model Difference:	All models are same with electrical parameters, internal circuit structure, product appearance, PCB layout, Bom and Antenna. But only differ in model name.
Sample ID:	CTC250114-016-S002
Power Supply:	DC 5V/3A, 9V/2A from Adapter
Adapter Model	PDT-003 Input: 100-240V~ 50/60Hz 4.5A max USB-C1 Output:3.3V-21V⎓5A or 5V⎓3A or 9V⎓3A or 15V⎓3A or 20V⎓5A (100W Max) USB-C2/C3 Output: 5V⎓3A or 9V⎓3A or 12V⎓2.5A or 15V⎓2A or 20V⎓1.5A (30W Max) USB-C4/C5/C6/C7 Output: 5V⎓ 3A or 9V⎓2.22A or 12V ⎓ 1.67A (20W Max) USB-A Output: 5V⎓3A or 9V⎓2A or 10V⎓2.25A OR 12⎓1.5A (22.5W Max) USB-C1+USB-C2/C3 Output: 100W+30W USB-C1+USB-C4/C5/C6/C7 Output: 100W+20W (USB-C2+USB-C3) + (USB-C4+US-C5) Output:15W USB-C6+USB-C7+USB-A Output:15W USB-C1+USB-C2/C3+USB-C4/C5+USB-C6/C7/USB-A:100W+30W+20W+20W Total Output:170W (Max)
Hardware Version:	5800-2AVQ920
Software Version:	VQ920-AVN-V1.8.0

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Bluetooth 5.0 / BR+EDR	
Modulation:	GFSK, π/4-DQPSK, 8-DPSK
Operation Frequency:	2402MHz~2480MHz
Channel Number:	79
Channel Separation:	1MHz
Antenna Type:	FPC Antenna
Antenna Gain:	1.71dBi

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

2.3. Accessory Equipment Information

Equipment Information			
Name	Model	S/N	Manufacturer
Notebook	ThinkPad T460s	/	Lenovo
Cable Information			
Name	Shielded Type	Ferrite Core	Length
USB Cable	Unshielded	NO	150cm
Test Software Information			
Name	Version	/	/
QRCT4	/	/	/

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

2.4. Operation State

Operation Frequency List: The EUT has been tested under typical operating condition. The Applicant provides communication tools software to control the EUT for staying in continuous transmitting and receiving mode for testing. BT EDR, 79 channels are provided to the EUT. Channels 00/39/78 were selected for testing.

Operation Frequency List:

Channel	Frequency (MHz)
00	**2402**
01	2403
⋮	⋮
38	2440
39	**2441**
40	2442
⋮	⋮
77	2479
78	**2480**

Note: The display in grey were the channel selected for testing.

Test Mode:

For RF test items:
The engineering test program was provided and enabled to make EUT continuous transmit.
For AC power line conducted emissions:
The EUT was set to connect with the Bluetooth instrument under large package sizes transmission.
For Radiated spurious emissions test item:
The engineering test program was provided and enabled to make EUT continuous transmit. The EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

2.5. Measurement Instruments List

Radiated emission					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated Until
1	Trilog-Broadband Antenna	Schwarzbeck	VULB 9163	01026	Dec. 24, 2025
2	Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-647	Sep. 25, 2025
3	Test Receiver	Keysight	N9038A	MY56400071	Dec. 12, 2025
4	Broadband Amplifier	Schwarzbeck	BBV9743B	259	Dec. 12, 2025
5	Mirowave Broadband Amplifier	Schwarzbeck	BBV9718C	111	Dec. 12, 2025
6	3m chamber 3	YIHENG	EE106	/	Aug. 28, 2026
7	Test Software	FARA	EZ-EMC	FA-03A2	/

Conducted emission					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	LISN	R&S	ENV216	101112	Dec. 12, 2025
2	LISN	R&S	ENV216	101113	Dec. 12, 2025
3	EMI Test Receiver	R&S	ESCI	100524	Dec. 12, 2025
4	ISN CAT6	Schwarzbeck	NTFM 8158	CAT6-8158-0046	Dec. 12, 2025
5	ISN CAT5	Schwarzbeck	NTFM 8158	CAT5-8158-0046	Dec. 12, 2025
6	Test Software	R&S	EMC32	6.10.10	/

RF Test System - SRD					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated Until
1	Spectrum Analyzer	R&S	FSV40-N	101654	Aug. 06, 2025
2	RF Control Unit	Tonscend	JS0806-2	/	Aug. 21, 2025
3	Test Software	Tonscend	JS1120-3	V3.3.38	/

Note: 1. The Cal. Interval was one year.
2. The Cal. Interval was three years of the antenna.
3. The cable loss has been calculated in test result which connection between each test instruments.

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

3. TEST ITEM AND RESULTS

3.1. Conducted Emission

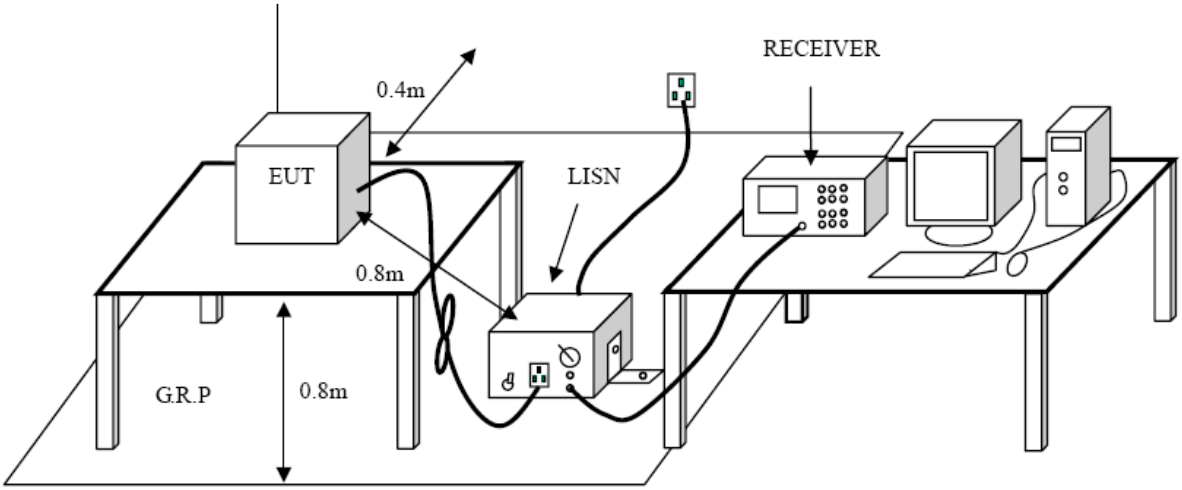
Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.207

Frequency (MHz)	Conducted Limit (dBμV)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 *	56 to 46 *
0.5 - 5	56	46
5 - 30	60	50

* Decreases with the logarithm of the frequency.

Test Configuration



Test Procedure

1. The EUT was setup according to ANSI C63.10:2013 requirements.
2. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface.
3. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm / 50 μH coupling impedance for the measuring equipment.
4. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)
5. Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.
6. The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
7. Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.
8. During the above scans, the emissions were maximized by cable manipulation.

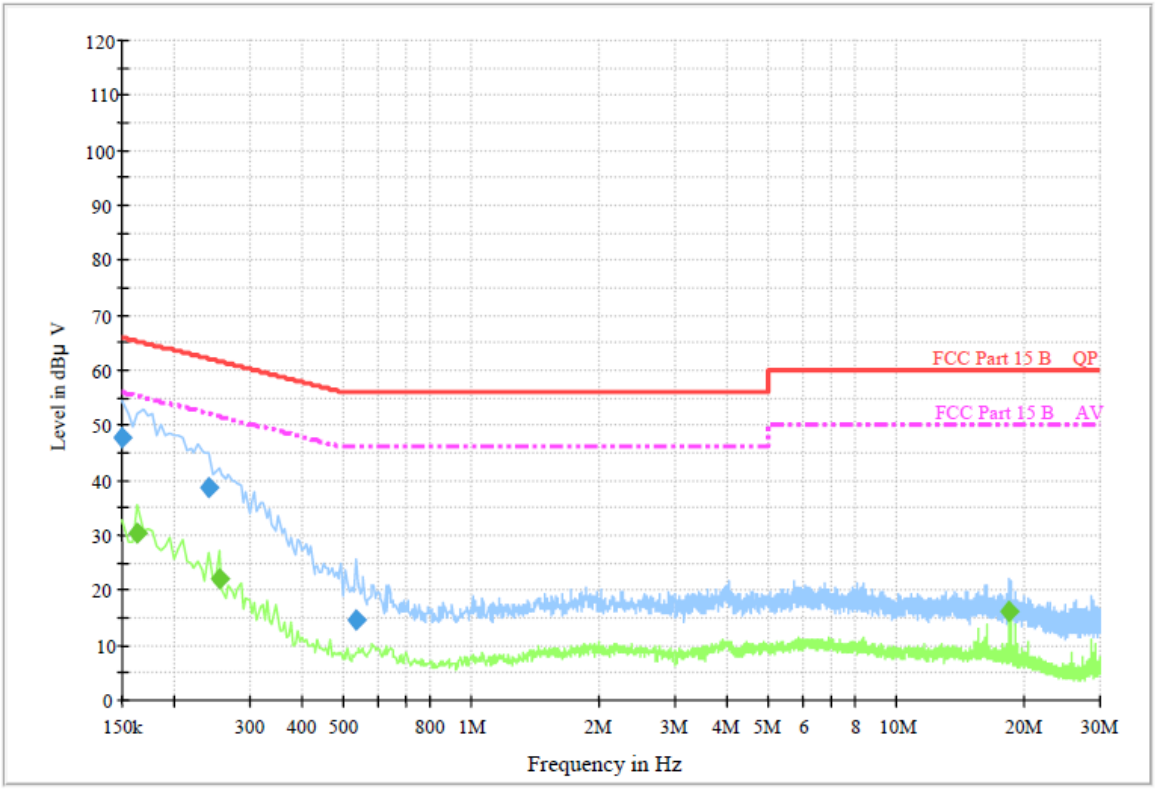
Test Mode

Please refer to the clause 2.4.

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Test Result

Test Voltage:	AC 120V/60Hz
Terminal:	Line
Remark:	Only worse case is reported



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.150000	47.8	1000.00	9.000	On	L1	9.4	18.2	66.0	
0.240000	38.6	1000.00	9.000	On	L1	9.5	23.5	62.1	
0.532500	14.6	1000.00	9.000	On	L1	9.4	41.4	56.0	

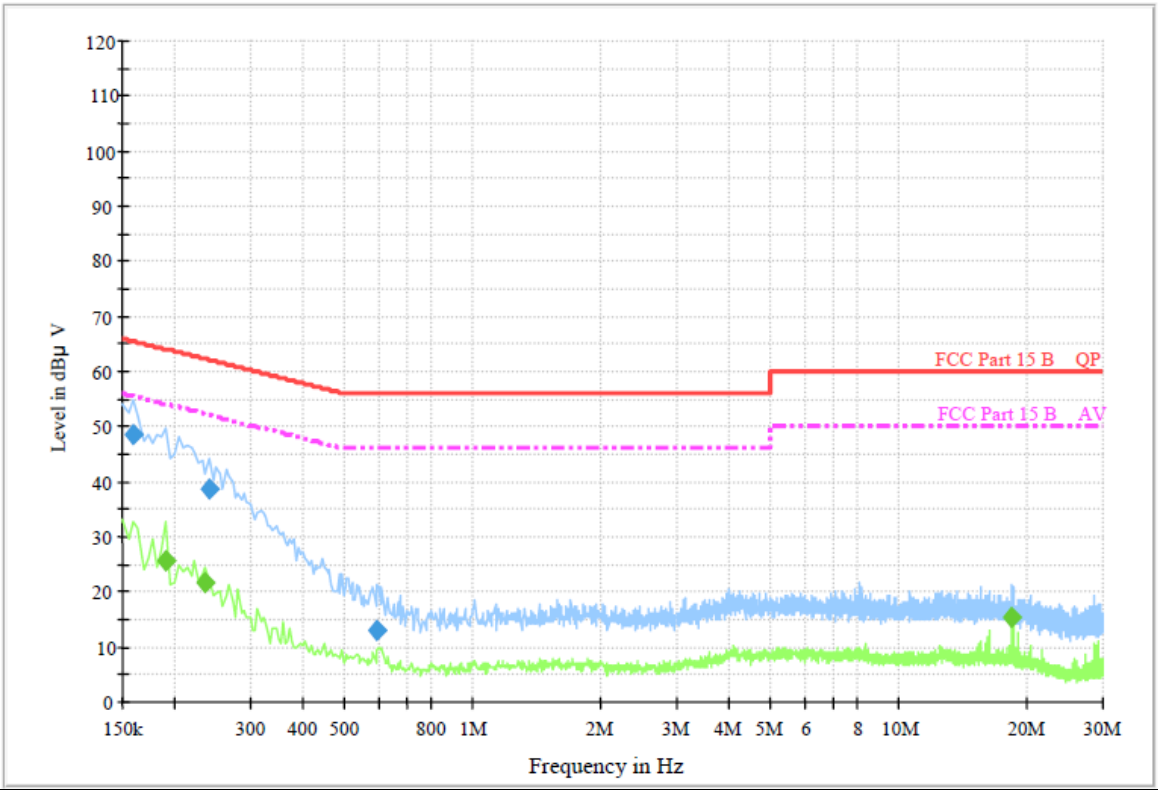
Final Measurement Detector 2

Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.163500	30.5	1000.00	9.000	On	L1	9.5	24.8	55.3	
0.253500	22.1	1000.00	9.000	On	L1	9.5	29.5	51.6	
18.366000	16.3	1000.00	9.000	On	L1	9.8	33.7	50.0	

Emission Level = Read Level + Correct Factor

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Test Voltage:	AC 120V/60Hz
Terminal:	Neutral
Remark:	Only worse case is reported



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.159000	48.4	1000.00	9.000	On	N	9.4	17.1	65.5	
0.240000	38.5	1000.00	9.000	On	N	9.4	23.6	62.1	
0.595500	12.9	1000.00	9.000	On	N	9.4	43.1	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.190500	25.7	1000.00	9.000	On	N	9.3	28.3	54.0	
0.235500	21.9	1000.00	9.000	On	N	9.4	30.4	52.3	
18.366000	15.3	1000.00	9.000	On	N	9.6	34.7	50.0	

Emission Level = Read Level + Correct Factor

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

3.2. Radiated Emission

Limit

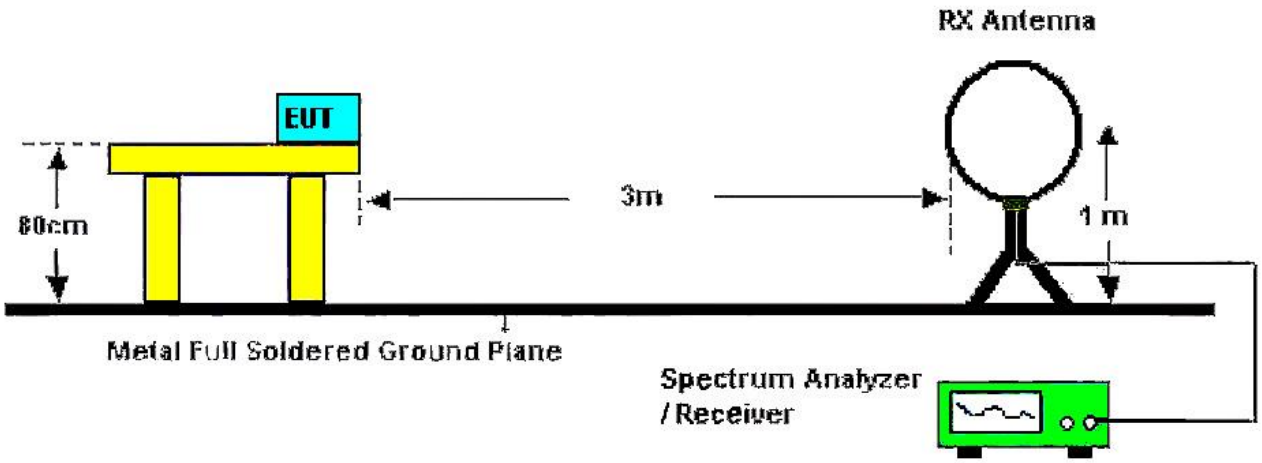
FCC CFR Title 47 Part 15 Subpart C Section 15.209

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F (kHz)	300
0.490~1.705	24000/F (kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
960~1000	500	3

Frequency Range (MHz)	dBμV/m (at 3 meters)	
	Peak	Average
Above 1000	74	54

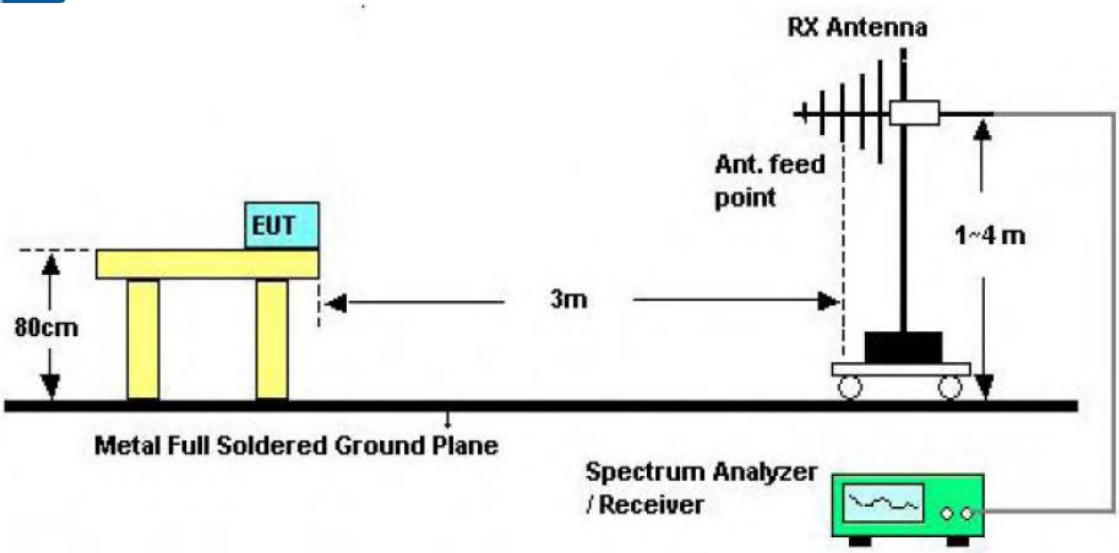
Note:
(1) The tighter limit applies at the band edges.
(2) Emission Level (dBμV/m)=20log Emission Level (μV/m).

Test Configuration

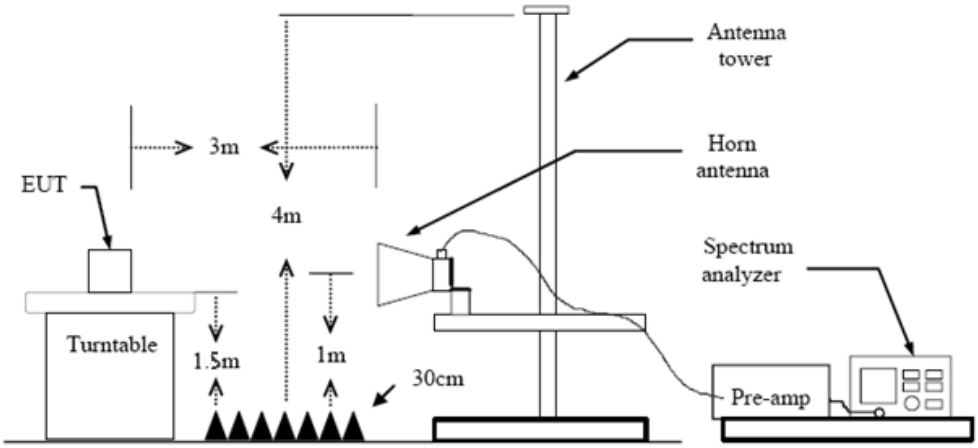


Below 30MHz Test Setup

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn



30-1000MHz Test Setup



Above 1GHz Test Setup

Test Procedure

1. The EUT was setup and tested according to ANSI C63.10:2013.
2. The EUT is placed on a turn table which is 0.8 meter above ground for below 1 GHz, and 1.5 m for above 1 GHz. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
3. The EUT was set 3 meters from the receiving antenna, which was mounted on the top of a variable height antenna tower.
4. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.
5. Set to the maximum power setting and enable the EUT transmit continuously.
6. Use the following spectrum analyzer settings

(1) Span shall wide enough to fully capture the emission being measured;
(2) 9k – 150kHz:
RBW=300 Hz, VBW=1 kHz, Sweep=auto, Detector function=peak, Trace=max hold
(3) 0.15M – 30MHz:
RBW=10 kHz, VBW=30 kHz, Sweep=auto, Detector function=peak, Trace=max hold
(4) 30M - 1 GHz:
RBW=120 kHz, VBW=300 kHz, Sweep=auto, Detector function=peak, Trace=max hold

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

(5) From 1 GHz to 10th harmonic:

RBW=1MHz, VBW=3MHz Peak detector for Peak value.

RBW=1MHz, VBW see note 1 with Peak Detector for Average Value.

Note 1: For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T video bandwidth with peak detector for average measurements. For the Duty Cycle please refer to clause 3.10 Duty Cycle.

Test Mode

Please refer to the clause 2.4.

Test Result

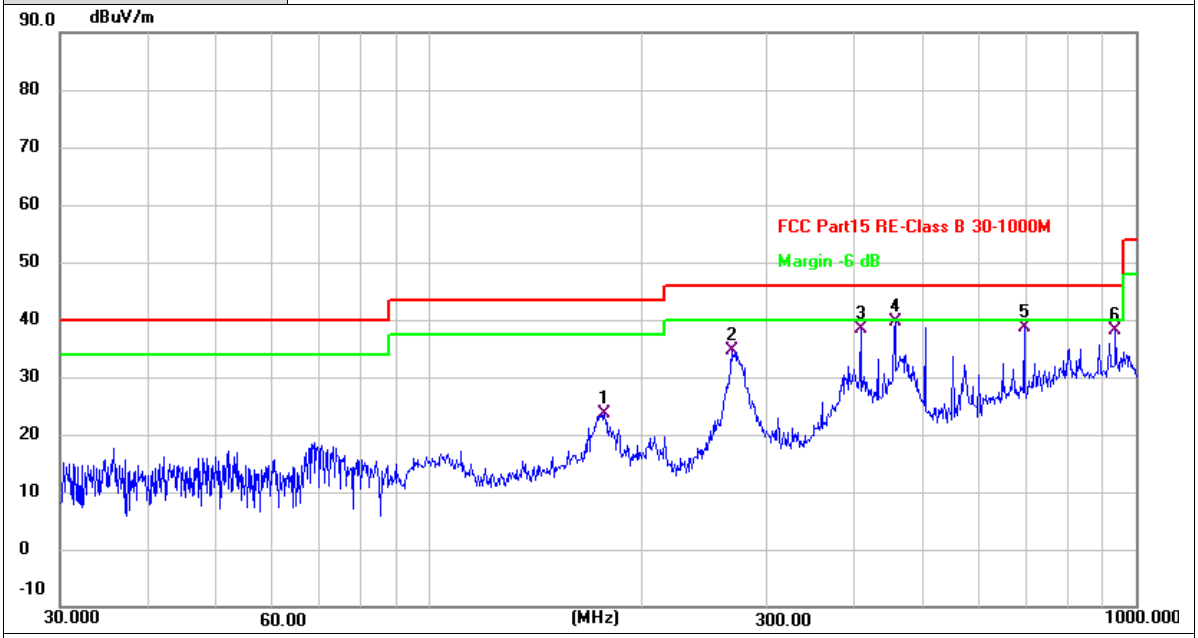
9 kHz~30 MHz

From 9 kHz to 30 MHz: The conclusion is PASS.

Note: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Ant. Pol.	Horizontal
Test Mode:	TX GFSK Mode 2402MHz
Remark:	Only worse case is reported.

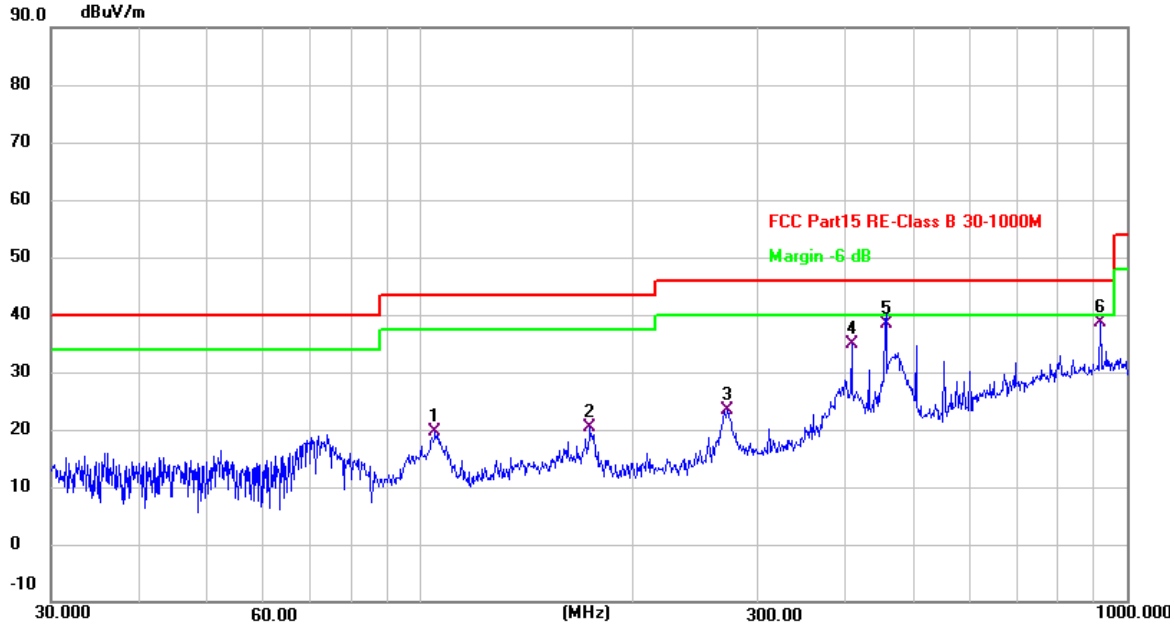


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	176.8878	41.29	-17.73	23.56	43.50	-19.94	QP
2	267.5454	51.46	-16.83	34.63	46.00	-11.37	QP
3	407.5144	50.81	-12.39	38.42	46.00	-7.58	QP
4 *	455.9058	50.47	-10.95	39.52	46.00	-6.48	QP
5	694.4174	44.36	-5.76	38.60	46.00	-7.40	QP
6	935.5463	39.67	-1.66	38.01	46.00	-7.99	QP

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Ant. Pol.	Vertical
Test Mode:	TX GFSK Mode 2402MHz
Remark:	Only worse case is reported.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	104.9033	39.35	-19.74	19.61	43.50	-23.89	QP
2	173.8135	37.76	-17.32	20.44	43.50	-23.06	QP
3	271.3246	40.11	-16.66	23.45	46.00	-22.55	QP
4	407.5145	47.36	-12.39	34.97	46.00	-11.03	QP
5	455.9058	49.39	-10.95	38.44	46.00	-7.56	QP
6 *	916.0687	40.79	-2.04	38.75	46.00	-7.25	QP

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Above 1GHz

Ant. Pol.	Horizontal
Test Mode:	TX GFSK Mode 2402MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4803.169	25.51	1.84	27.35	54.00	-26.65	AVG
2	4804.076	39.81	1.84	41.65	74.00	-32.35	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

Ant. Pol.	Vertical
Test Mode:	TX GFSK Mode 2402MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4803.745	26.17	1.84	28.01	54.00	-25.99	AVG
2	4803.943	40.63	1.84	42.47	74.00	-31.53	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Ant. Pol.	Horizontal
Test Mode:	TX GFSK Mode 2441MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4883.224	25.24	1.97	27.21	54.00	-26.79	AVG
2	4884.368	39.87	1.96	41.83	74.00	-32.17	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

Ant. Pol.	Vertical
Test Mode:	TX GFSK Mode 2441MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4881.387	25.79	1.96	27.75	54.00	-26.25	AVG
2	4882.319	40.13	1.96	42.09	74.00	-31.91	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Ant. Pol.	Horizontal
Test Mode:	TX GFSK Mode 2480MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4960.319	39.37	2.08	41.45	74.00	-32.55	peak
2 *	4960.533	24.68	2.08	26.76	54.00	-27.24	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

Ant. Pol.	Vertical
Test Mode:	TX GFSK Mode 2480MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4960.806	25.48	2.08	27.56	54.00	-26.44	AVG
2	4960.799	39.47	2.08	41.55	74.00	-32.45	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Ant. Pol.	Horizontal
Test Mode:	TX π/4-DQPSK Mode 2402MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4803.126	25.27	1.84	27.11	54.00	-26.89	AVG
2	4804.607	39.57	1.84	41.41	74.00	-32.59	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

Ant. Pol.	Vertical
Test Mode:	TX π/4-DQPSK Mode 2402MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4804.248	25.68	1.84	27.52	54.00	-26.48	AVG
2	4804.797	39.42	1.84	41.26	74.00	-32.74	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Ant. Pol.	Horizontal
Test Mode:	TX π/4-DQPSK Mode 2441MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4883.647	25.36	1.96	27.32	54.00	-26.68	AVG
2	4883.937	39.19	1.96	41.15	74.00	-32.85	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

Ant. Pol.	Vertical
Test Mode:	TX π/4-DQPSK Mode 2441MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4881.181	39.48	1.96	41.44	74.00	-32.56	peak
2 *	4881.711	25.73	1.96	27.69	54.00	-26.31	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Ant. Pol.	Horizontal
Test Mode:	TX π/4-DQPSK Mode 2480MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4959.900	25.56	2.08	27.64	54.00	-26.36	AVG
2	4960.663	39.55	2.08	41.63	74.00	-32.37	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

Ant. Pol.	Vertical
Test Mode:	TX π/4-DQPSK Mode 2480MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4959.693	39.05	2.08	41.13	74.00	-32.87	peak
2 *	4960.636	26.00	2.08	28.08	54.00	-25.92	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Ant. Pol.	Horizontal
Test Mode:	TX 8-DPSK Mode 2402MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4803.092	25.44	1.84	27.28	54.00	-26.72	AVG
2	4804.467	39.87	1.84	41.71	74.00	-32.29	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

Ant. Pol.	Vertical
Test Mode:	TX 8-DPSK Mode 2402MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4804.490	39.50	1.84	41.34	74.00	-32.66	peak
2 *	4804.783	25.80	1.84	27.64	54.00	-26.36	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Ant. Pol.	Horizontal
Test Mode:	TX 8-DPSK Mode 2441MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4881.084	40.63	1.96	42.59	74.00	-31.41	peak
2 *	4882.333	25.38	1.96	27.34	54.00	-26.66	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

Ant. Pol.	Vertical
Test Mode:	TX 8-DPSK Mode 2441MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4881.721	25.54	1.96	27.50	54.00	-26.50	AVG
2	4881.793	40.43	1.96	42.39	74.00	-31.61	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Ant. Pol.	Horizontal
Test Mode:	TX 8-DPSK Mode 2480MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4959.113	39.26	2.08	41.34	74.00	-32.66	peak
2 *	4959.419	25.00	2.08	27.08	54.00	-26.92	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

Ant. Pol.	Vertical
Test Mode:	TX 8-DPSK Mode 2480MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4959.846	40.01	2.08	42.09	74.00	-31.91	peak
2 *	4960.636	25.09	2.08	27.17	54.00	-26.83	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

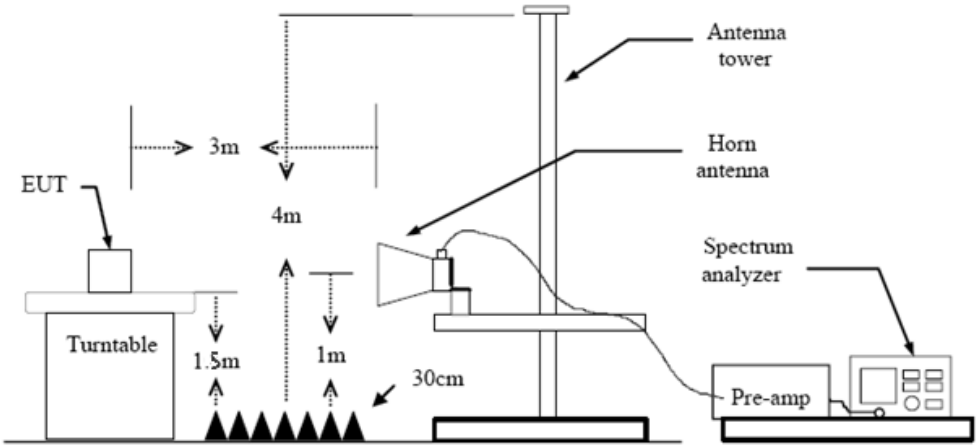
3.3. Band Edge Emissions (Radiated)

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (d)

Restricted Frequency Band (MHz)	(dBμV/m) (at 3m)	
	Peak	Average
2310 ~ 2390	74	54
2483.5 ~ 2500	74	54

Test Configuration



Test Procedure

1. The EUT was setup and tested according to ANSI C63.10:2013 requirements.
2. The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
3. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
4. The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.
5. The receiver set as follow:

RBW=1MHz, VBW=3MHz Peak detector for Peak value.
RBW=1MHz, VBW see note 1 with Peak Detector for Average Value.

Note 1: For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T video bandwidth with peak detector for average measurements. For the Duty Cycle please refer to clause 3.10 Duty Cycle.

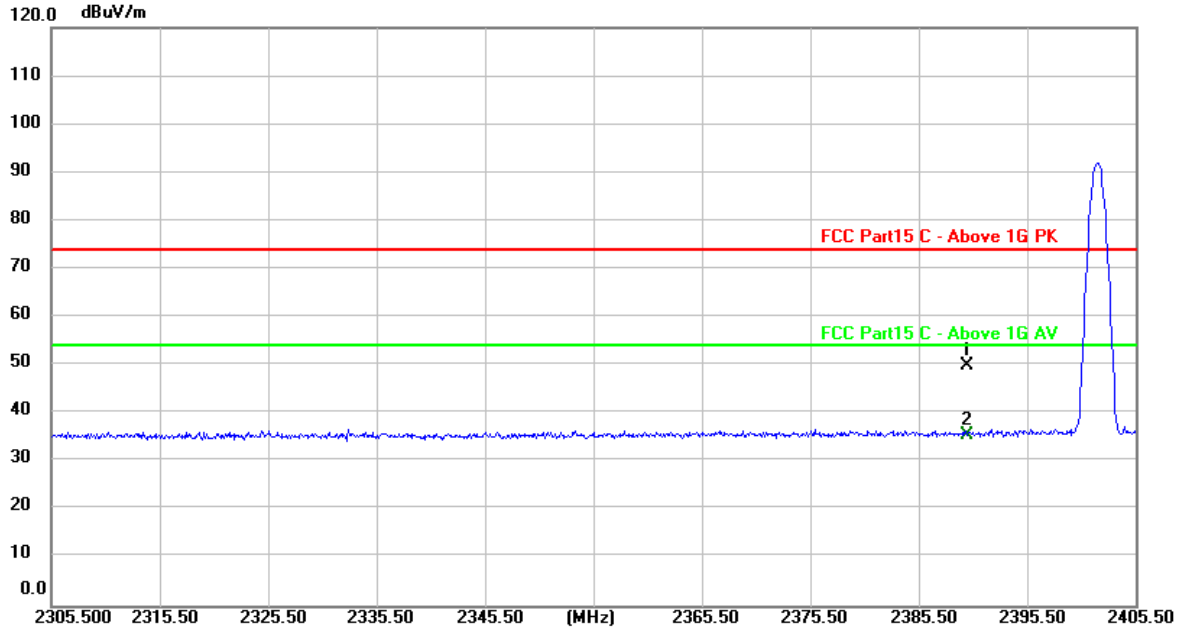
Test Mode

Please refer to the clause 2.4.

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Test Result

Ant. Pol.	Horizontal
Test Mode:	GFSK Mode 2402MHz

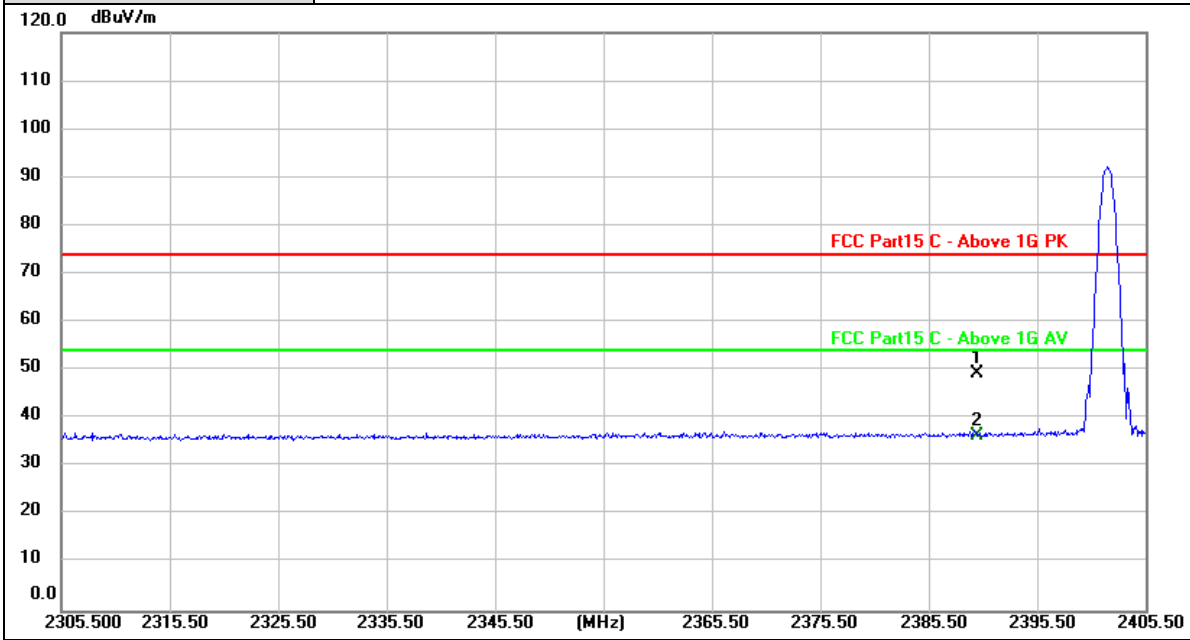


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2390.000	18.78	31.31	50.09	74.00	-23.91	peak
2 *	2390.000	4.38	31.31	35.69	54.00	-18.31	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Ant. Pol.	Vertical
Test Mode:	GFSK Mode 2402MHz

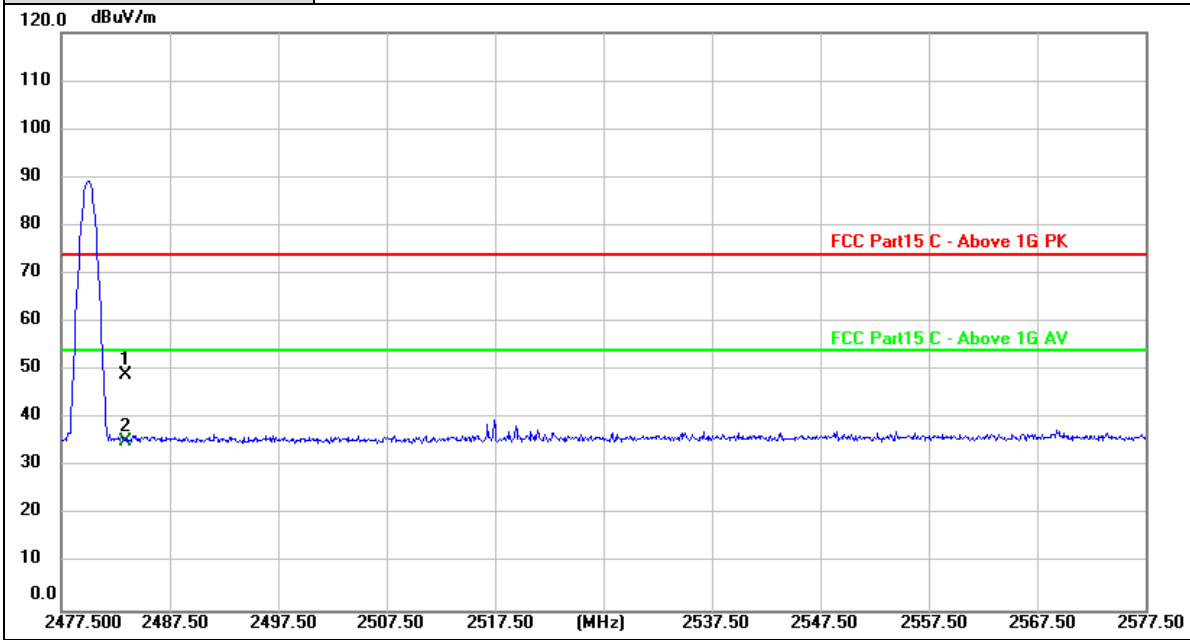


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2390.000	17.94	31.31	49.25	74.00	-24.75	peak
2 *	2390.000	5.09	31.31	36.40	54.00	-17.60	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Ant. Pol.	Horizontal
Test Mode:	GFSK Mode 2480MHz

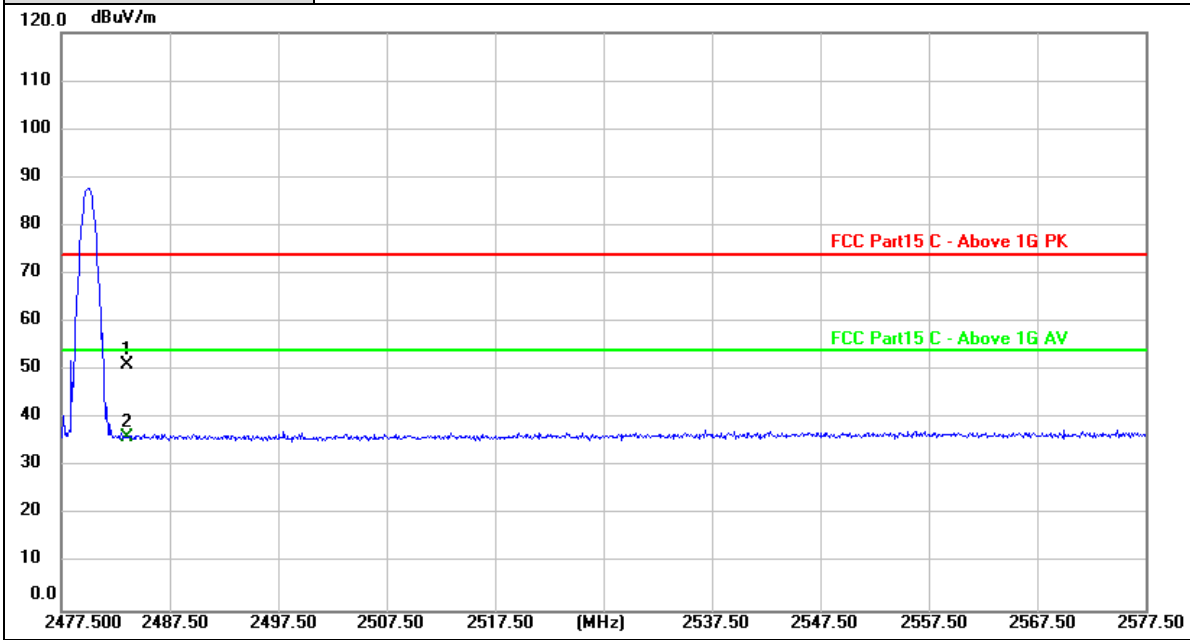


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	17.47	31.50	48.97	74.00	-25.03	peak
2 *	2483.500	3.75	31.50	35.25	54.00	-18.75	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Ant. Pol.	Vertical
Test Mode:	GFSK Mode 2480MHz

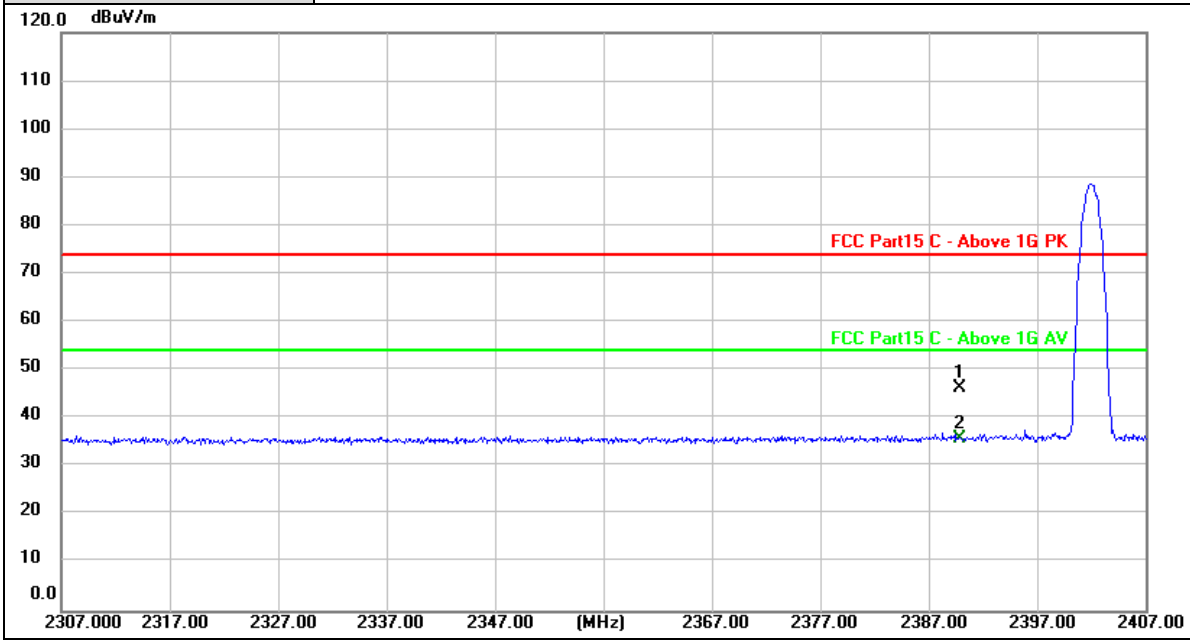


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	19.75	31.50	51.25	74.00	-22.75	peak
2 *	2483.500	4.75	31.50	36.25	54.00	-17.75	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Ant. Pol.	Horizontal
Test Mode:	π/4-DQPSK Mode 2402MHz

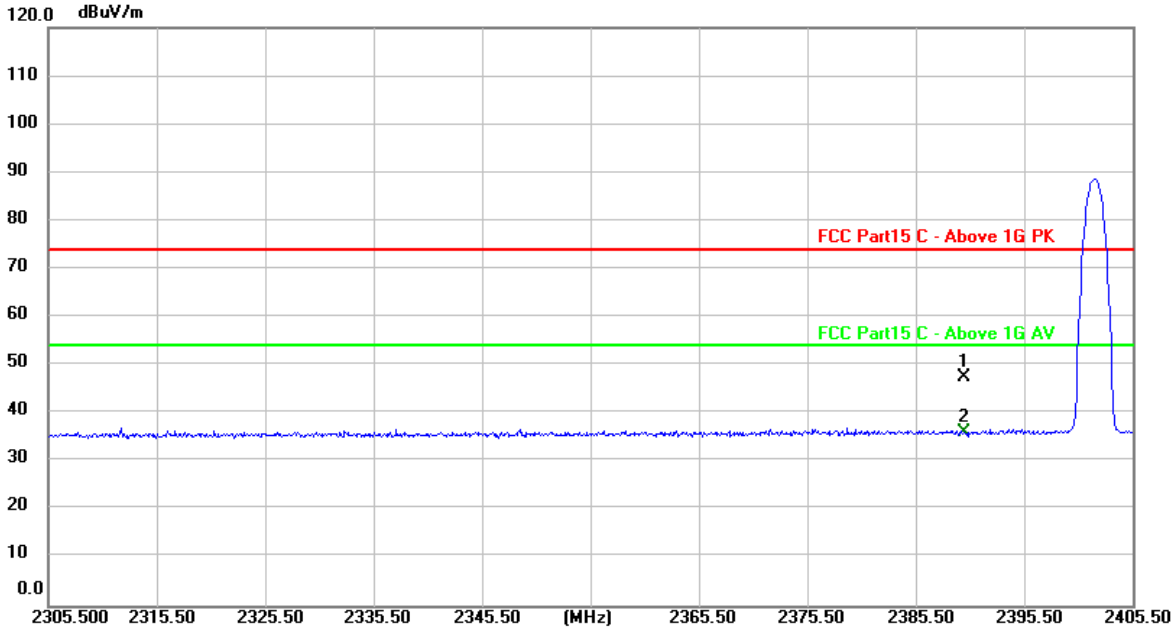


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2390.000	14.98	31.31	46.29	74.00	-27.71	peak
2 *	2390.000	4.43	31.31	35.74	54.00	-18.26	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Ant. Pol.	Vertical
Test Mode:	π/4-DQPSK Mode 2402MHz

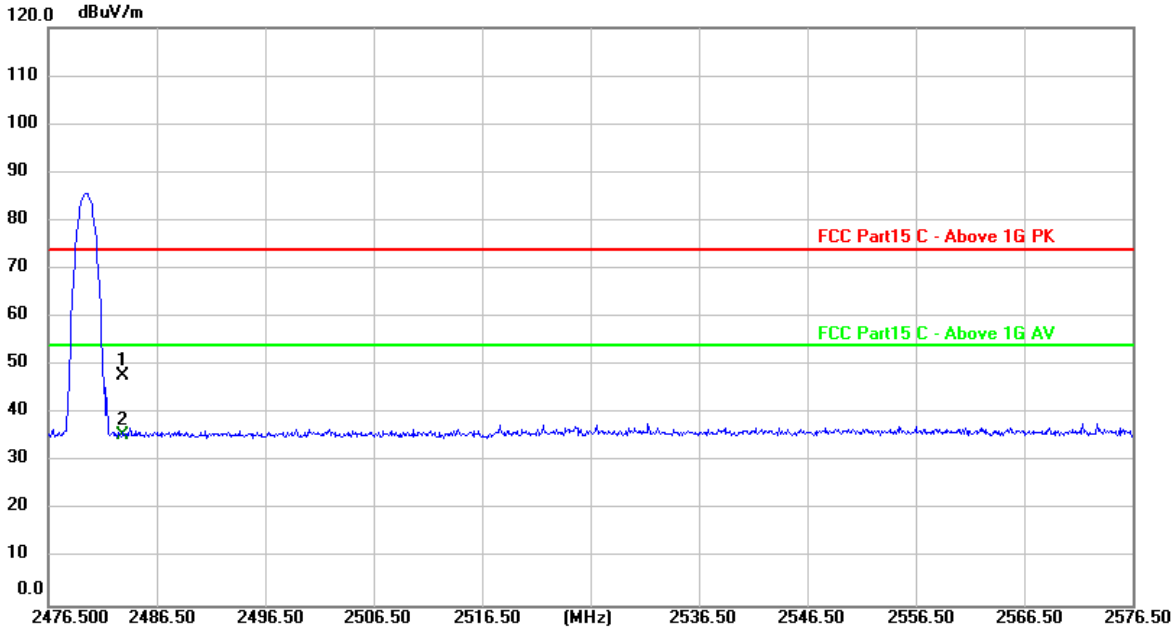


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2390.000	16.30	31.31	47.61	74.00	-26.39	peak
2 *	2390.000	4.93	31.31	36.24	54.00	-17.76	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Ant. Pol.	Horizontal
Test Mode:	π/4-DQPSK Mode 2480MHz

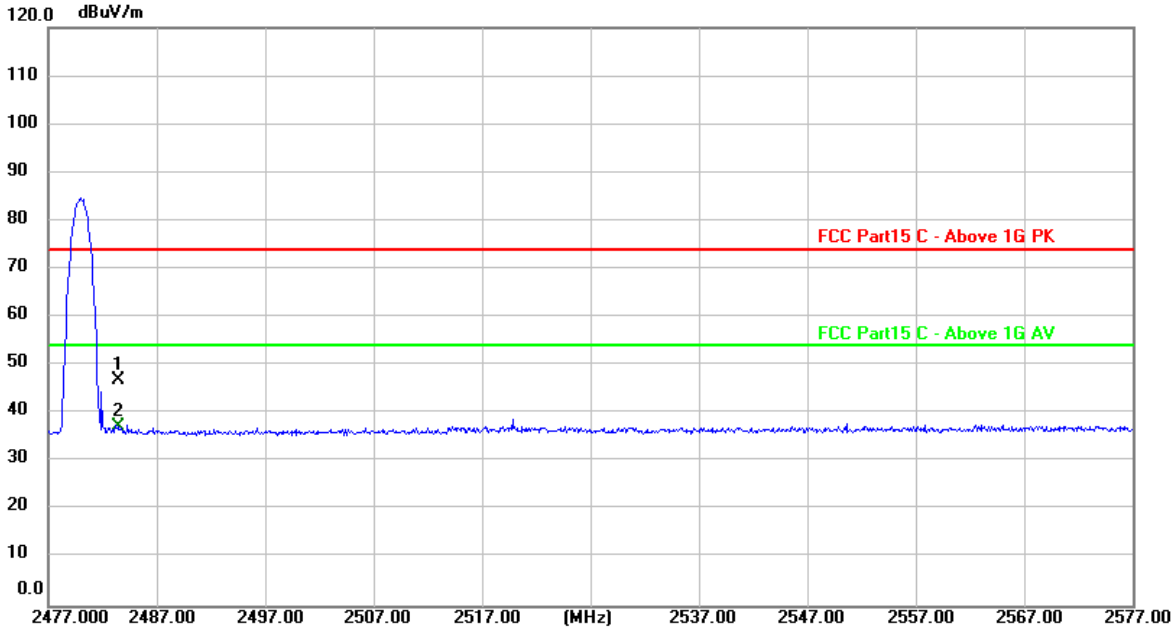


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	16.35	31.50	47.85	74.00	-26.15	peak
2 *	2483.500	4.01	31.50	35.51	54.00	-18.49	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Ant. Pol.	Vertical
Test Mode:	π/4-DQPSK Mode 2480MHz

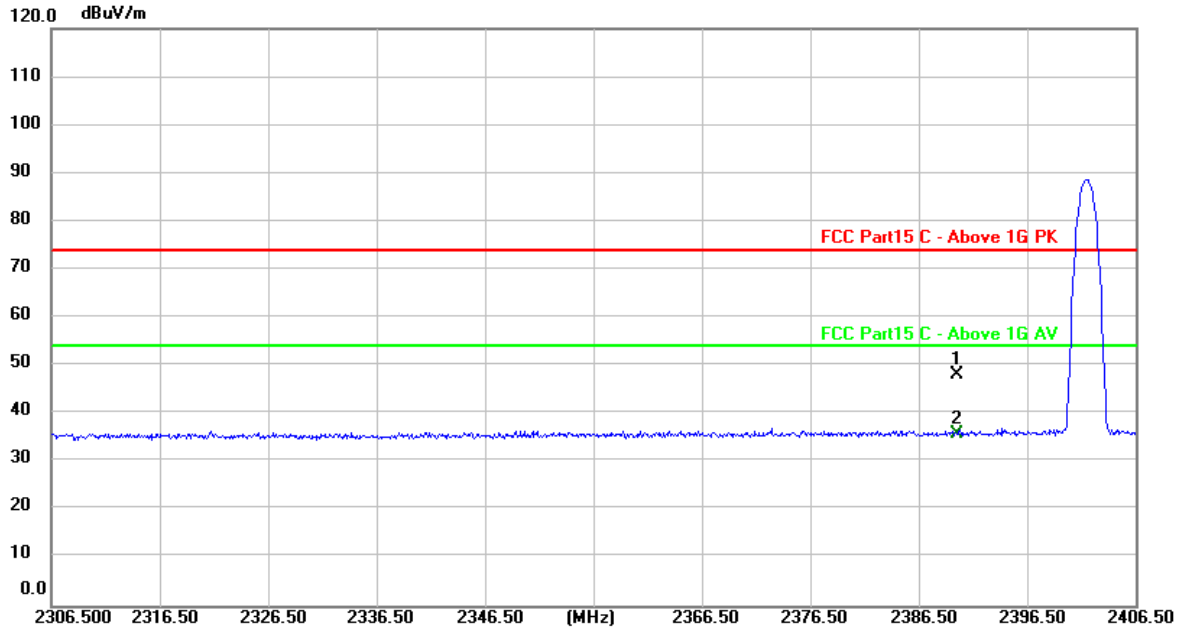


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	15.53	31.50	47.03	74.00	-26.97	peak
2 *	2483.500	5.75	31.50	37.25	54.00	-16.75	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Ant. Pol.	Horizontal
Test Mode:	8-DPSK Mode 2402MHz

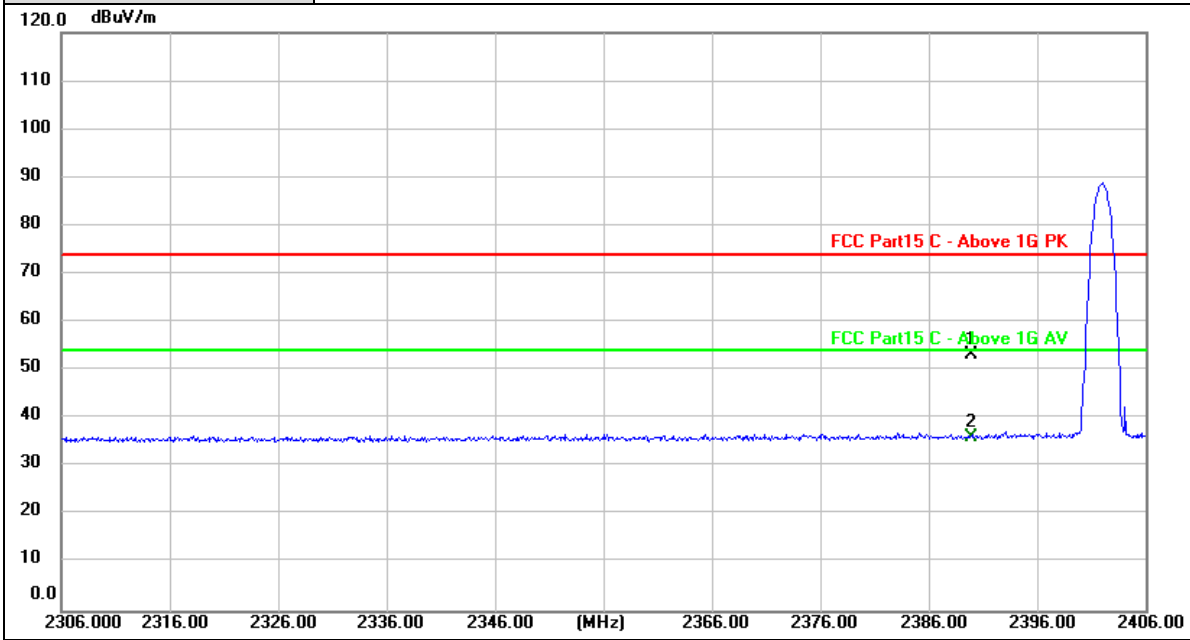


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2390.000	16.87	31.31	48.18	74.00	-25.82	peak
2 *	2390.000	4.41	31.31	35.72	54.00	-18.28	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Ant. Pol.	Vertical
Test Mode:	8-DPSK Mode 2402MHz

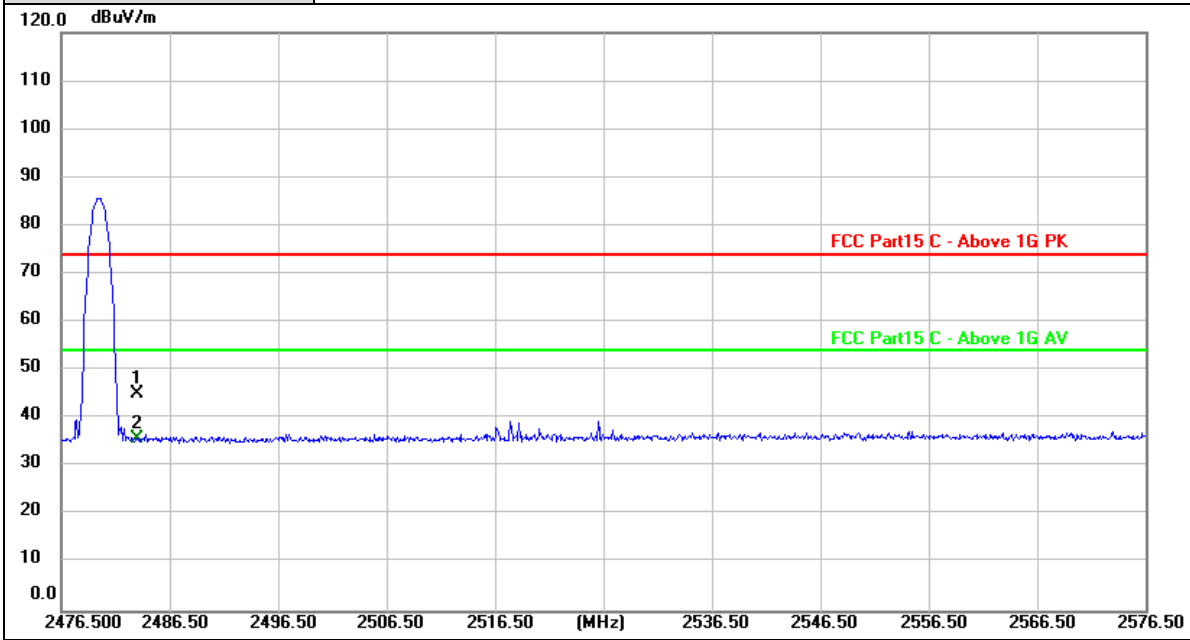


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2390.000	22.04	31.31	53.35	74.00	-20.65	peak
2 *	2390.000	4.71	31.31	36.02	54.00	-17.98	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Ant. Pol.	Horizontal
Test Mode:	8-DPSK Mode 2480MHz

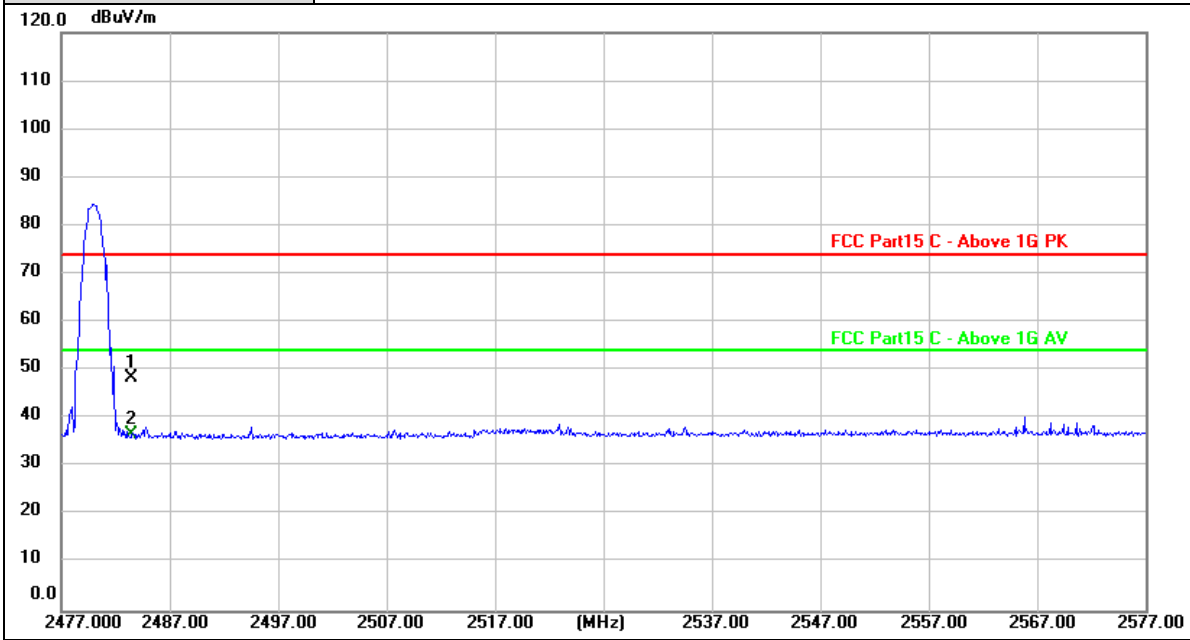


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	13.58	31.50	45.08	74.00	-28.92	peak
2 *	2483.500	4.31	31.50	35.81	54.00	-18.19	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Ant. Pol.	Vertical
Test Mode:	8-DPSK Mode 2480MHz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	16.99	31.50	48.49	74.00	-25.51	peak
2 *	2483.500	5.32	31.50	36.82	54.00	-17.18	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

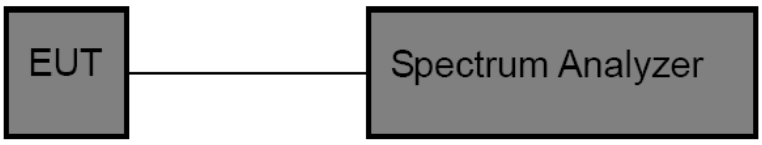
For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

3.4. Band Edge and Spurious Emissions (Conducted)

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (d)
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

Test Configuration



Test Procedure

1. The transmitter output was connected to the spectrum analyzer through an attenuator, the path loss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT transmit continuously.
3. Use the following spectrum analyzer settings:
   RBW = 100 kHz, VBW ≥ RBW, scan up through 10th harmonic.
   Sweep = auto, Detector function = peak, Trace = max hold.
4. Measure and record the results in the test report.

Test Mode

Please refer to the clause 2.4.

Test Result

Band Edge Conducted Test

TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-1.15	-47.36	≤-21.15	PASS
		High	2480	-0.23	-46.6	≤-20.23	PASS
		Low	Hop_2402	-1.40	-47.26	≤-21.4	PASS
		High	Hop_2480	-0.55	-47.07	≤-20.55	PASS
2DH5	Ant1	Low	2402	-2.13	-47.5	≤-22.13	PASS
		High	2480	-1.59	-46.75	≤-21.59	PASS
		Low	Hop_2402	-6.14	-47.44	≤-26.14	PASS
		High	Hop_2480	-2.78	-46.97	≤-22.78	PASS
3DH5	Ant1	Low	2402	-2.04	-47.01	≤-22.04	PASS
		High	2480	-1.40	-46.8	≤-21.4	PASS
		Low	Hop_2402	-5.54	-47.28	≤-25.54	PASS
		High	Hop_2480	-4.03	-47.31	≤-24.03	PASS

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

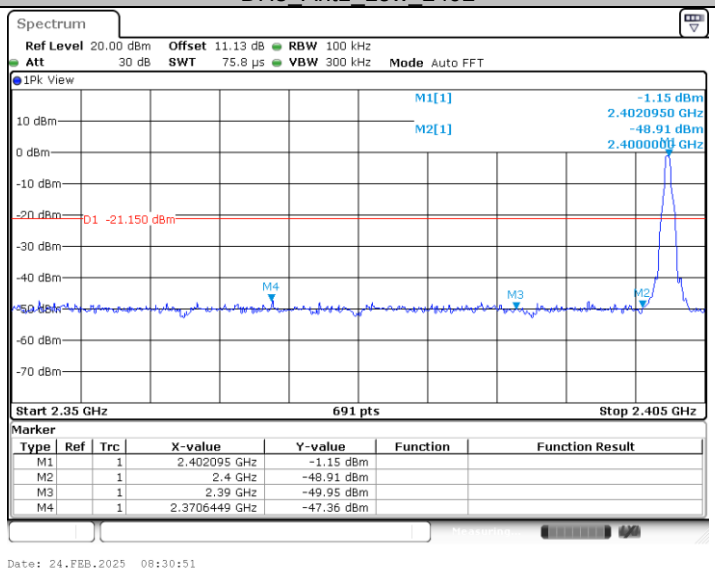
Conducted Spurious Emissions Test

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-0.80	-0.80	---	PASS
			30~1000	-0.80	-47.61	≤-20.8	PASS
			1000~26500	-0.80	-40.09	≤-20.8	PASS
		2441	Reference	-0.12	-0.12	---	PASS
			30~1000	-0.12	-48.58	≤-20.12	PASS
			1000~26500	-0.12	-41.35	≤-20.12	PASS
		2480	Reference	0.00	0.00	---	PASS
			30~1000	0.00	-48.51	≤-20	PASS
			1000~26500	0.00	-40.78	≤-20	PASS
2DH5	Ant1	2402	Reference	-2.26	-2.26	---	PASS
			30~1000	-2.26	-48.34	≤-22.26	PASS
			1000~26500	-2.26	-41.05	≤-22.26	PASS
		2441	Reference	-1.59	-1.59	---	PASS
			30~1000	-1.59	-48.16	≤-21.59	PASS
			1000~26500	-1.59	-40.73	≤-21.59	PASS
		2480	Reference	-1.47	-1.47	---	PASS
			30~1000	-1.47	-48.29	≤-21.47	PASS
			1000~26500	-1.47	-40.65	≤-21.47	PASS
3DH5	Ant1	2402	Reference	-2.18	-2.18	---	PASS
			30~1000	-2.18	-47.83	≤-22.18	PASS
			1000~26500	-2.18	-40.84	≤-22.18	PASS
		2441	Reference	-1.50	-1.50	---	PASS
			30~1000	-1.50	-48.17	≤-21.5	PASS
			1000~26500	-1.50	-41.15	≤-21.5	PASS
		2480	Reference	-1.34	-1.34	---	PASS
			30~1000	-1.34	-47.63	≤-21.34	PASS
			1000~26500	-1.34	-39.48	≤-21.34	PASS

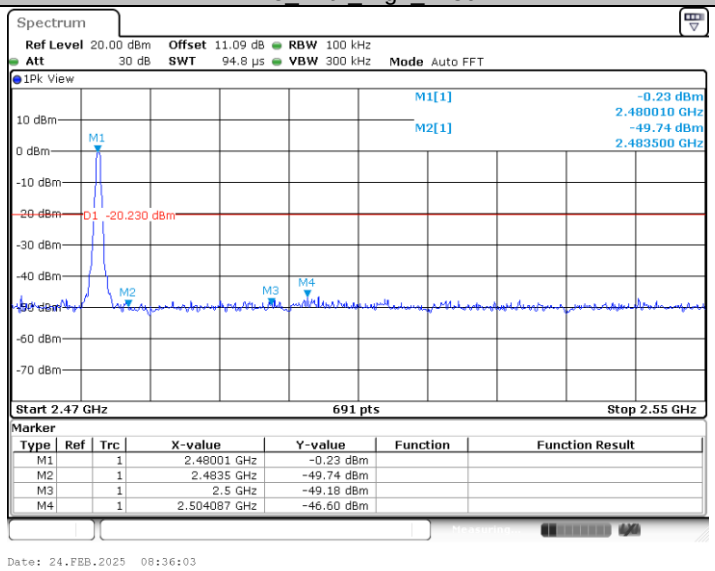
For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Band Edge Conducted Test plot as follows:

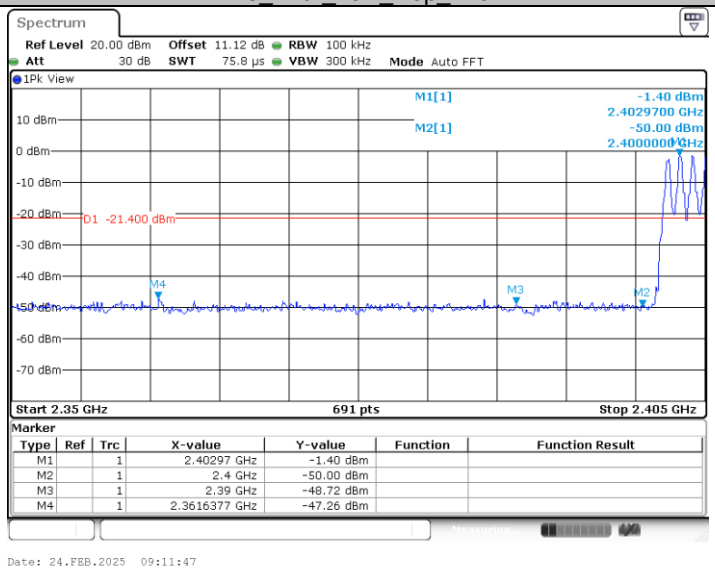
DH5_Ant1_Low_2402



DH5_Ant1_High_2480

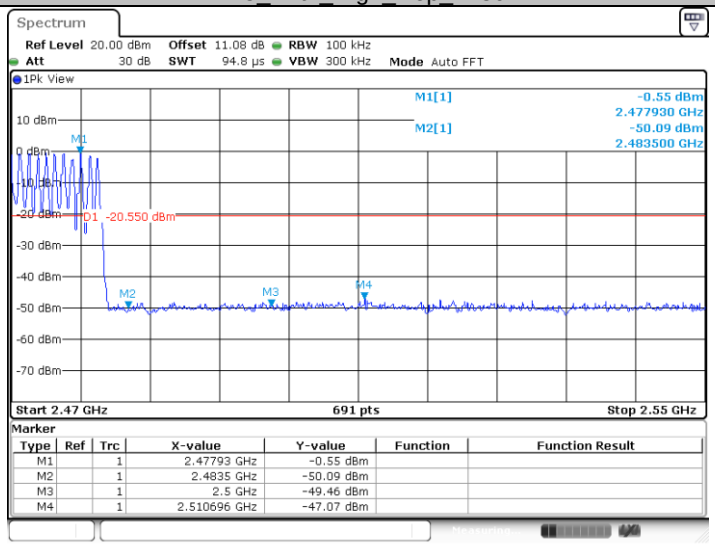


DH5_Ant1_Low_Hop_2402

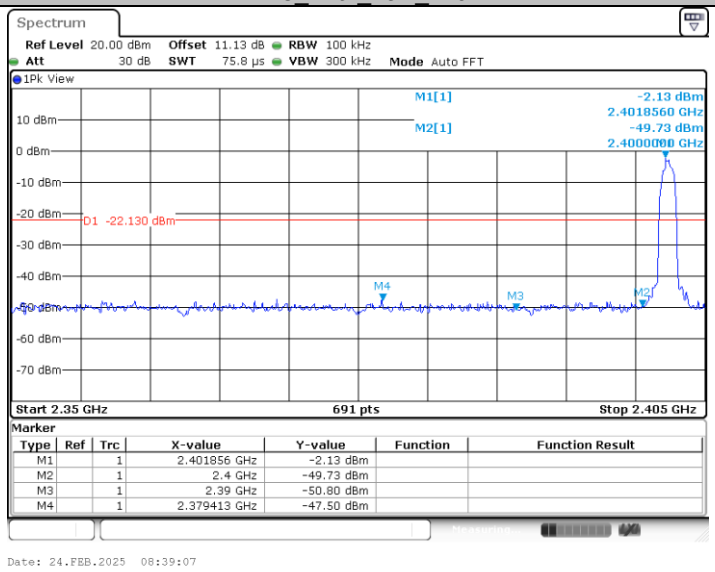


For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

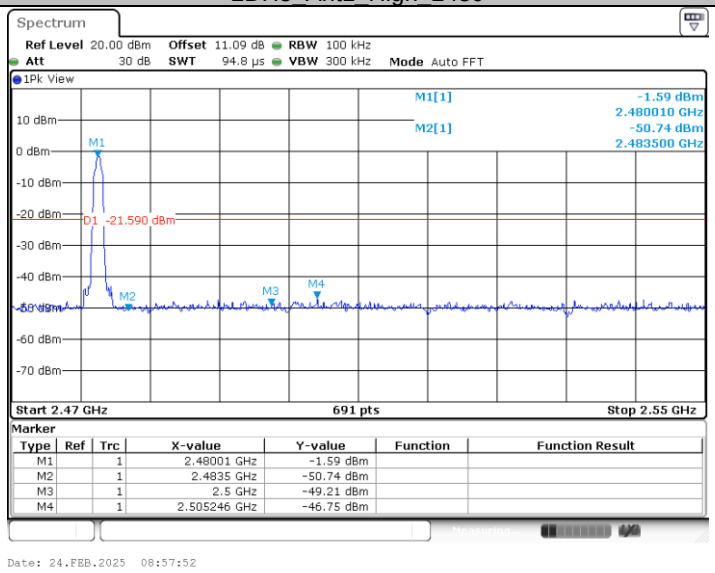
DH5_Ant1_High_Hop_2480



2DH5_Ant1_Low_2402

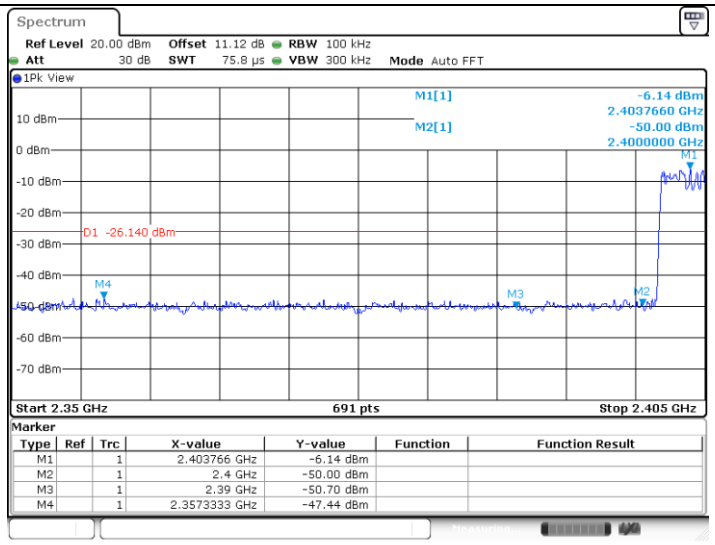


2DH5_Ant1_High_2480

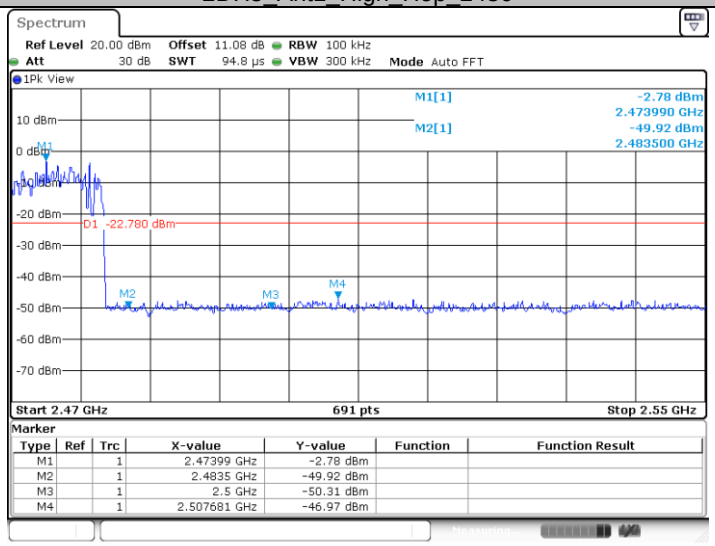


2DH5_Ant1_Low_Hop_2402

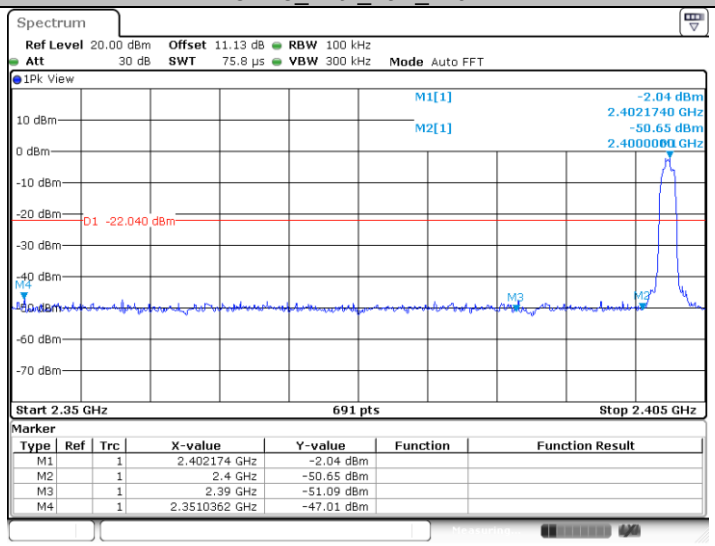
For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn



2DH5_Ant1_High_Hop_2480

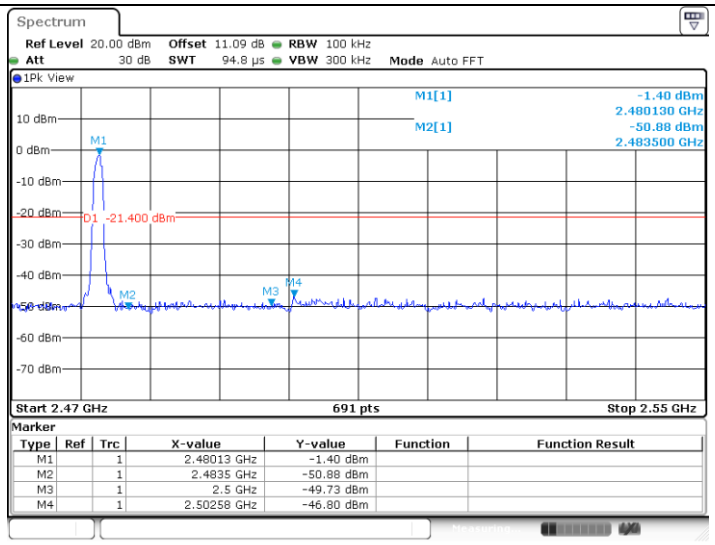


3DH5_Ant1_Low_2402

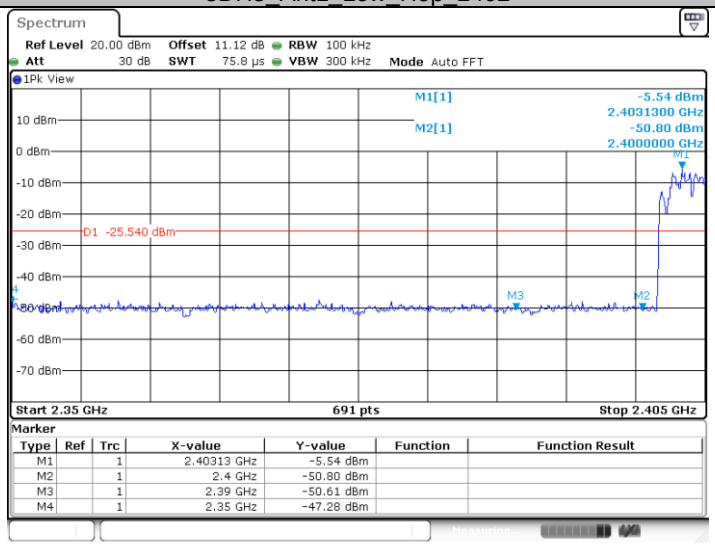


3DH5_Ant1_High_2480

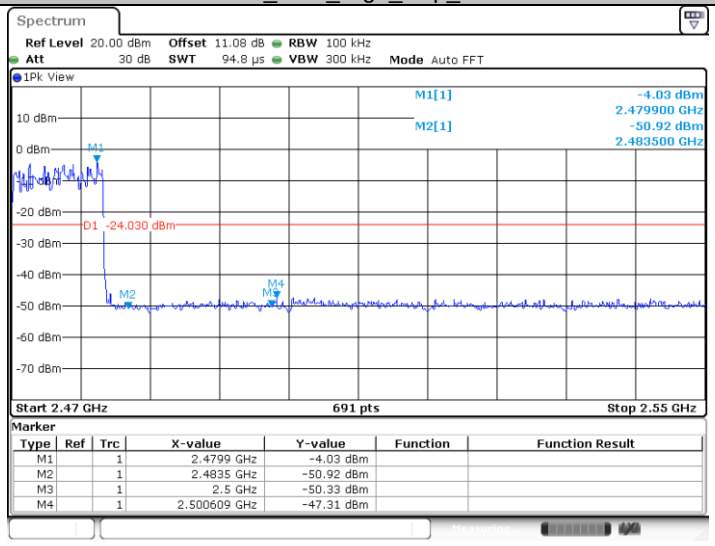
For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn



3DH5_Ant1_Low_Hop_2402



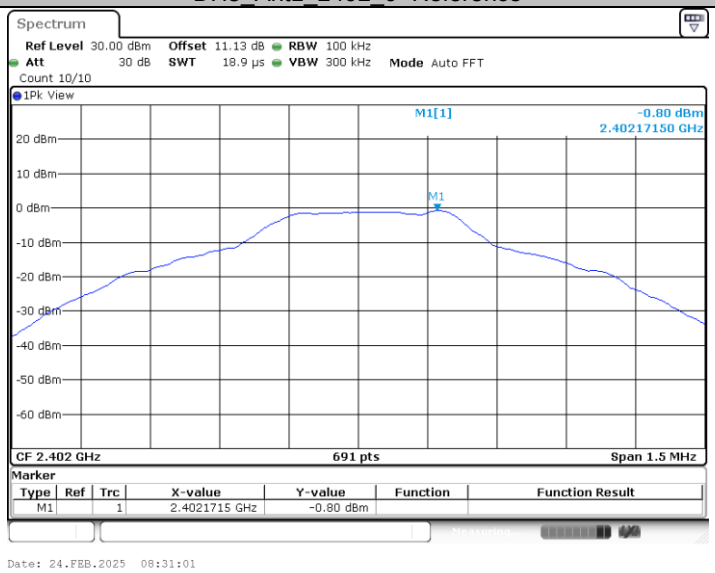
3DH5_Ant1_High_Hop_2480



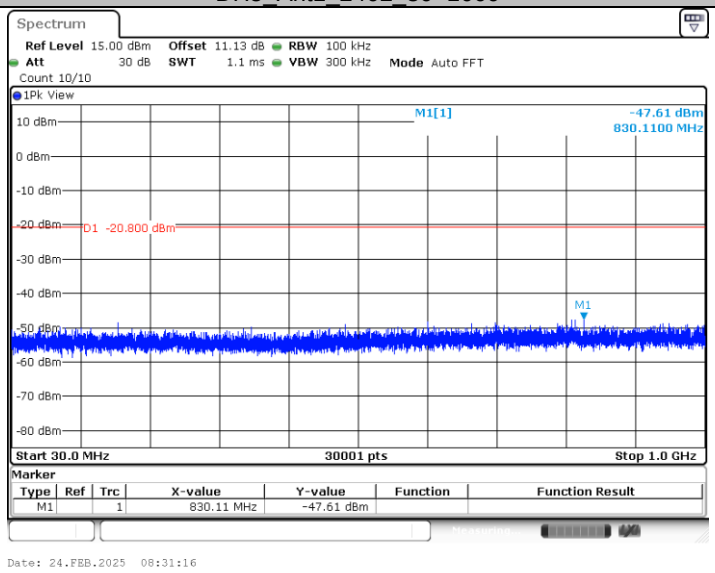
For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Conducted Spurious Emissions Test plot as follows

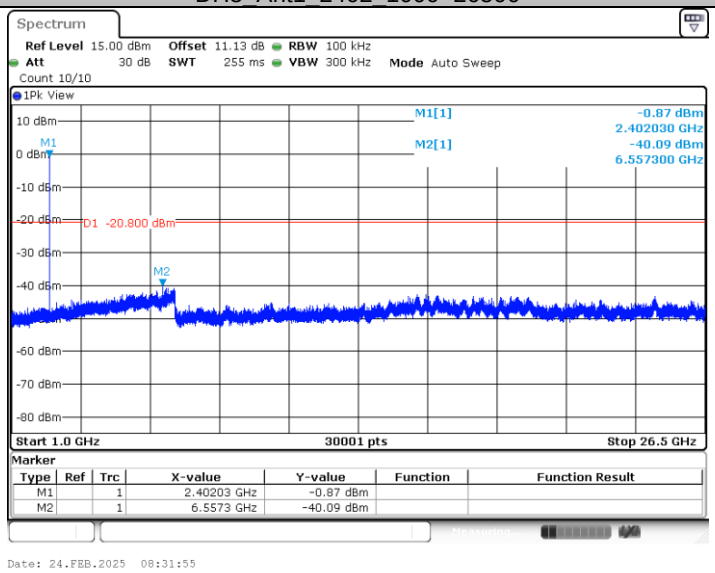
DH5_Ant1_2402_0~Reference



DH5_Ant1_2402_30~1000

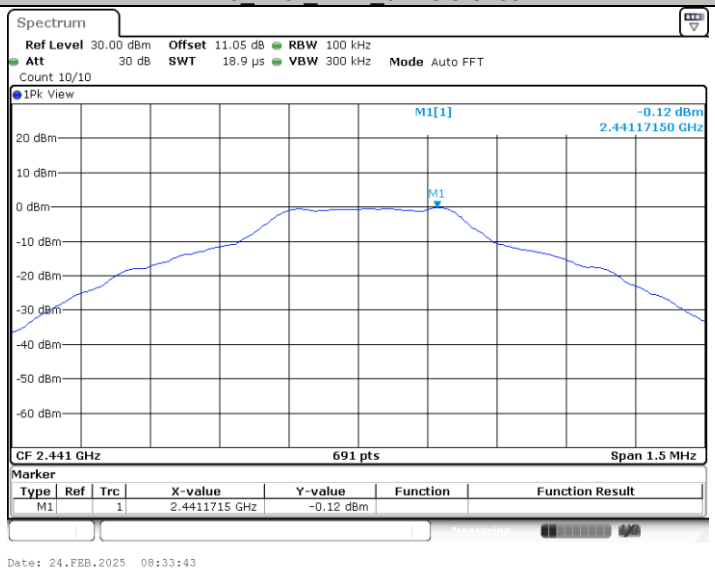


DH5_Ant1_2402_1000~26500

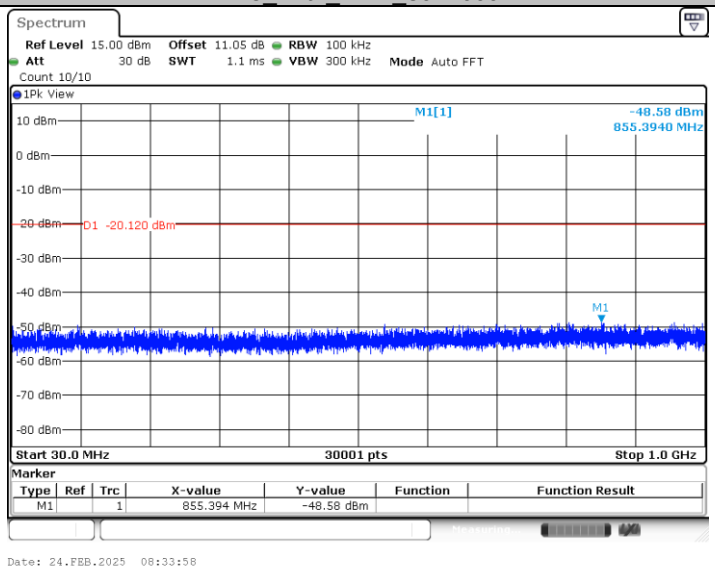


For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

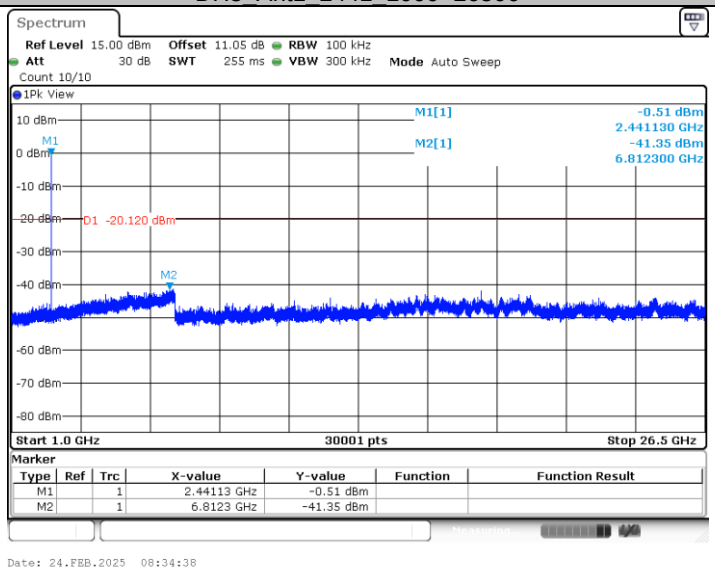
DH5_Ant1_2441_0~Reference



DH5_Ant1_2441_30~1000

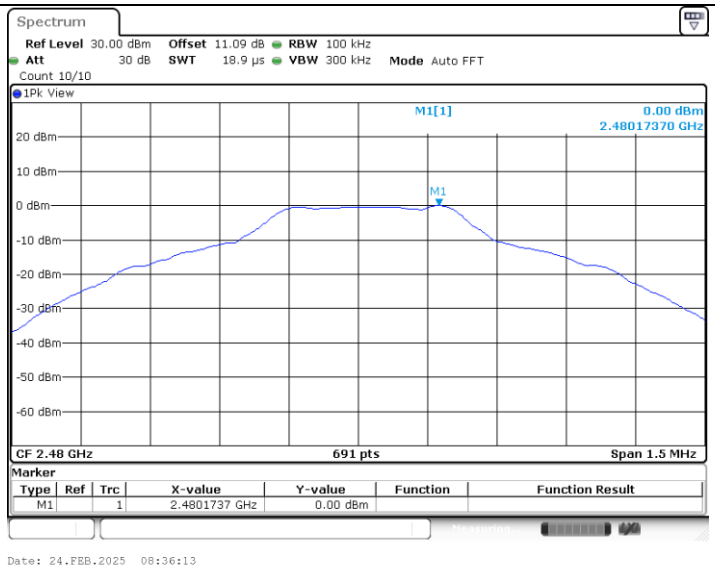


DH5_Ant1_2441_1000~26500

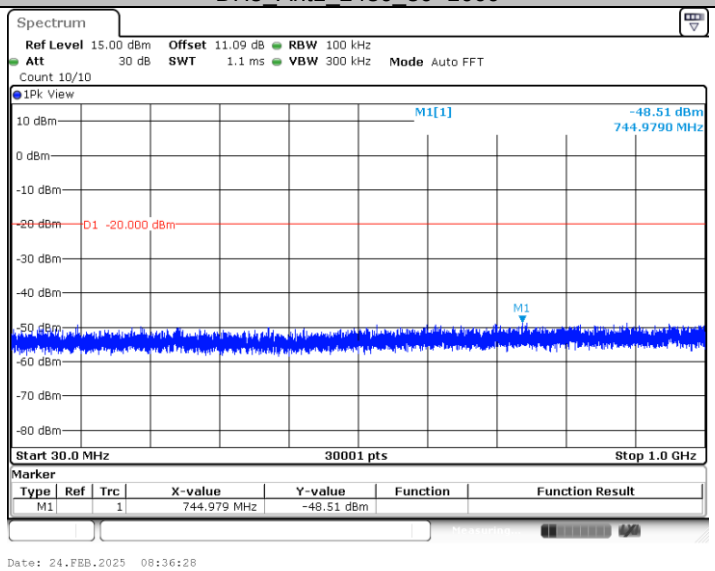


DH5_Ant1_2480_0~Reference

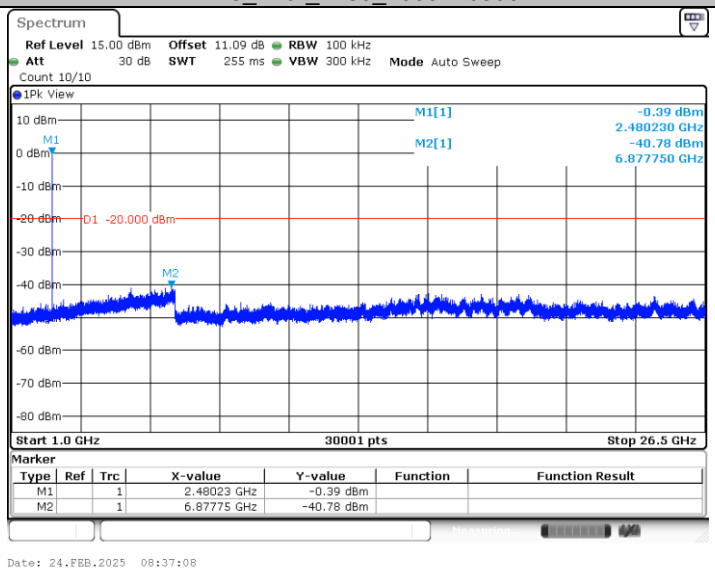
For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn



DH5_Ant1_2480_30~1000

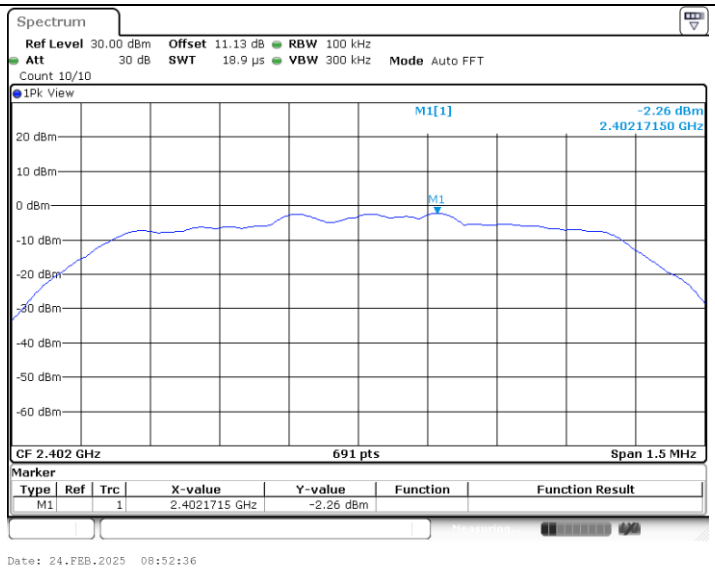


DH5_Ant1_2480_1000~26500

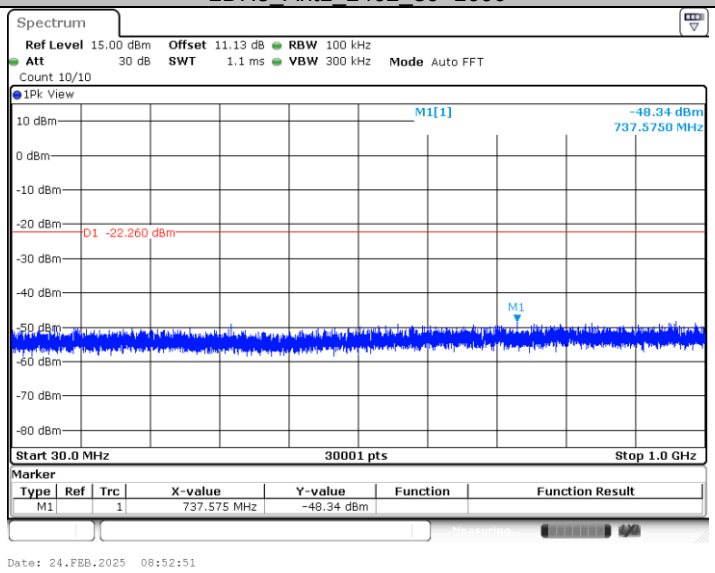


2DH5_Ant1_2402_0~Reference

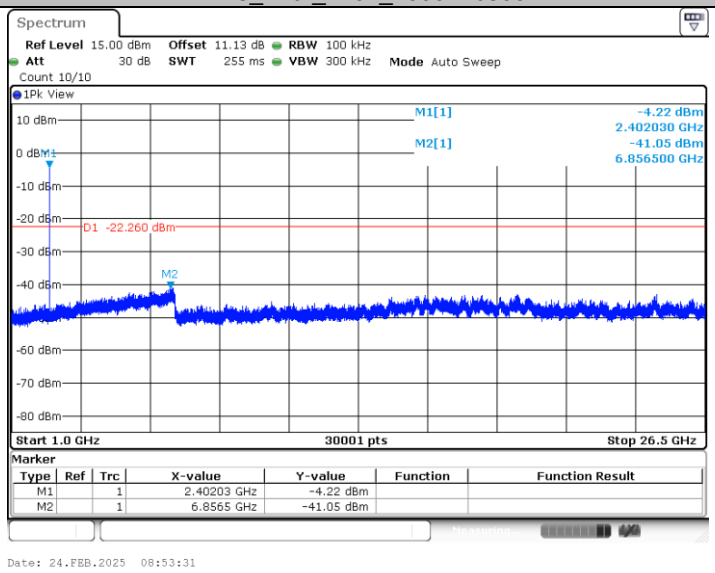
For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn



2DH5_Ant1_2402_30~1000

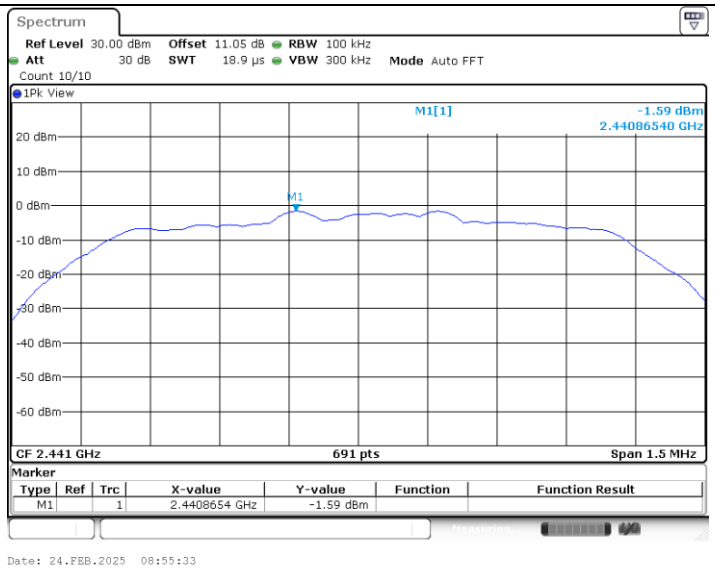


2DH5_Ant1_2402_1000~26500

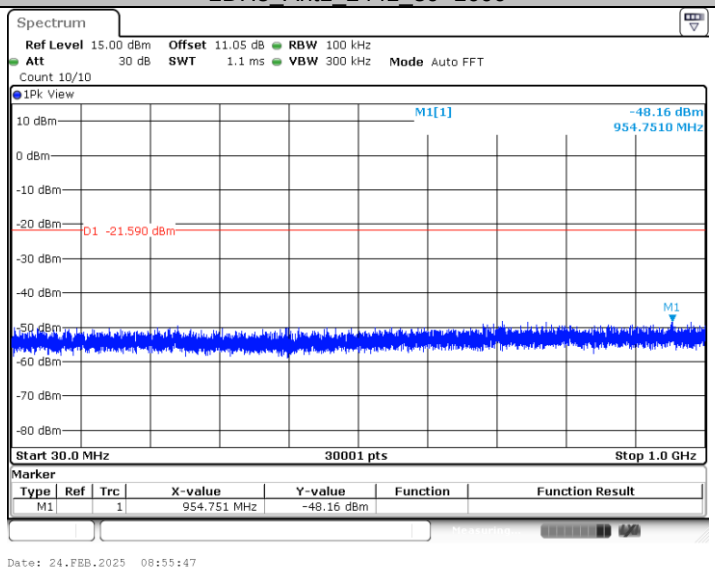


2DH5_Ant1_2441_0~Reference

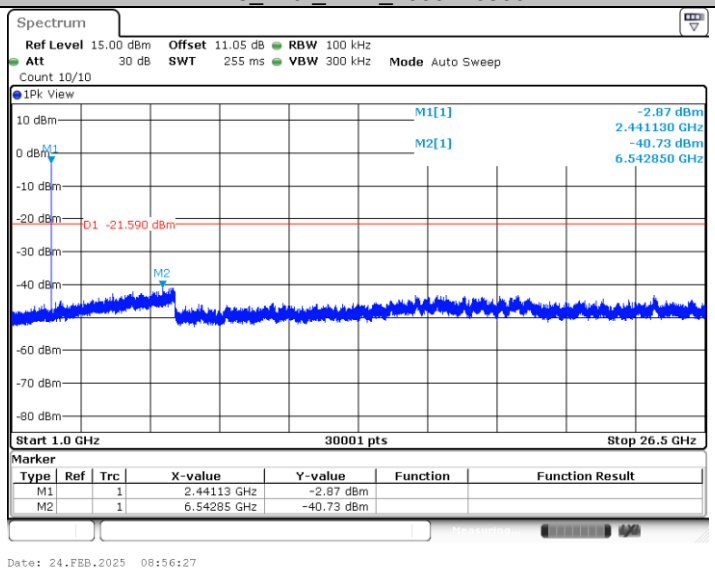
For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn



2DH5_Ant1_2441_30~1000

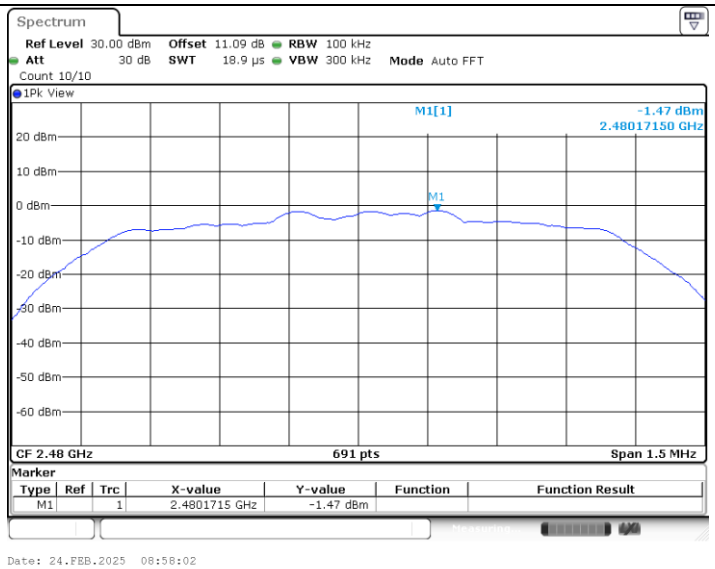


2DH5_Ant1_2441_1000~26500

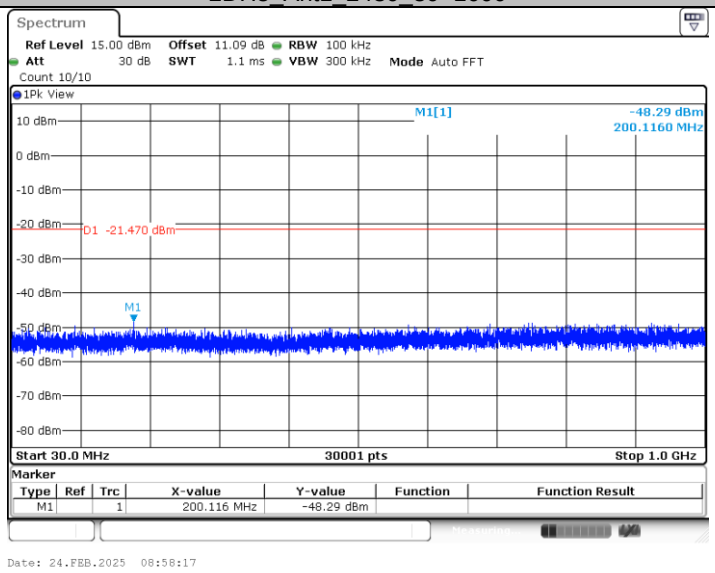


2DH5_Ant1_2480_0~Reference

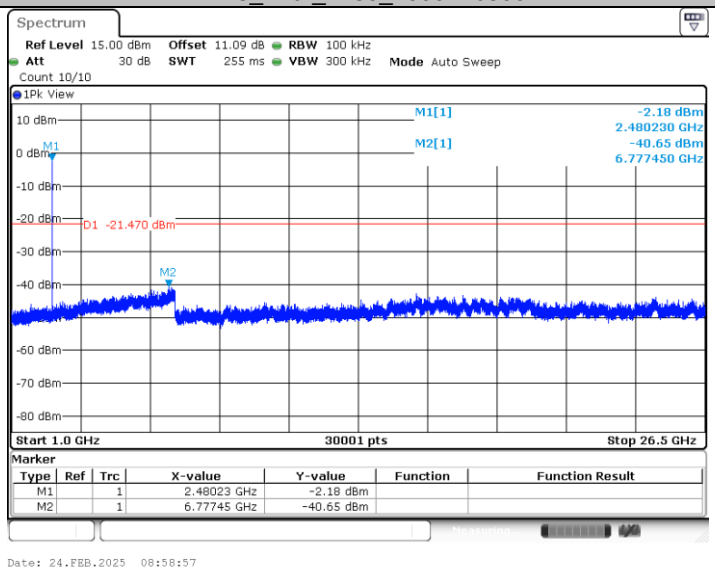
For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn



2DH5_Ant1_2480_30~1000

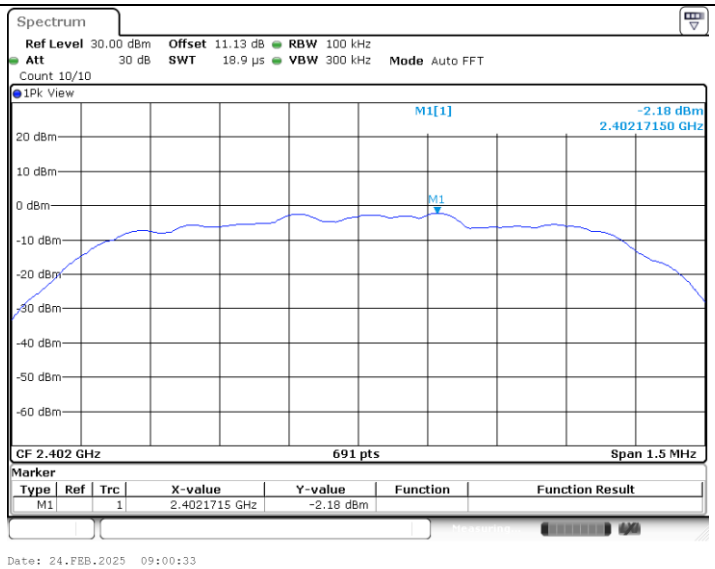


2DH5_Ant1_2480_1000~26500

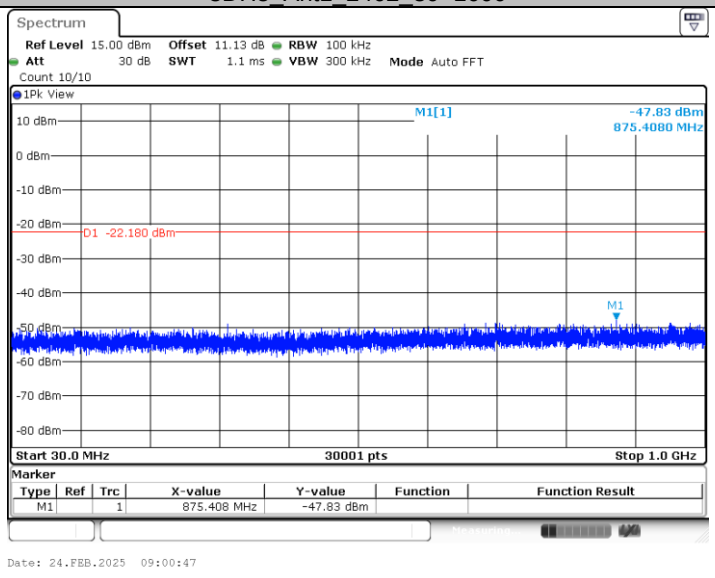


3DH5_Ant1_2402_0~Reference

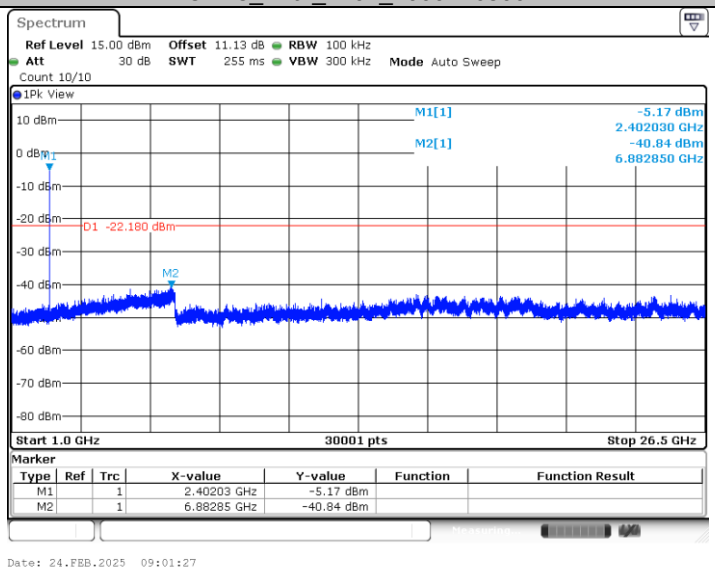
For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn



3DH5_Ant1_2402_30~1000

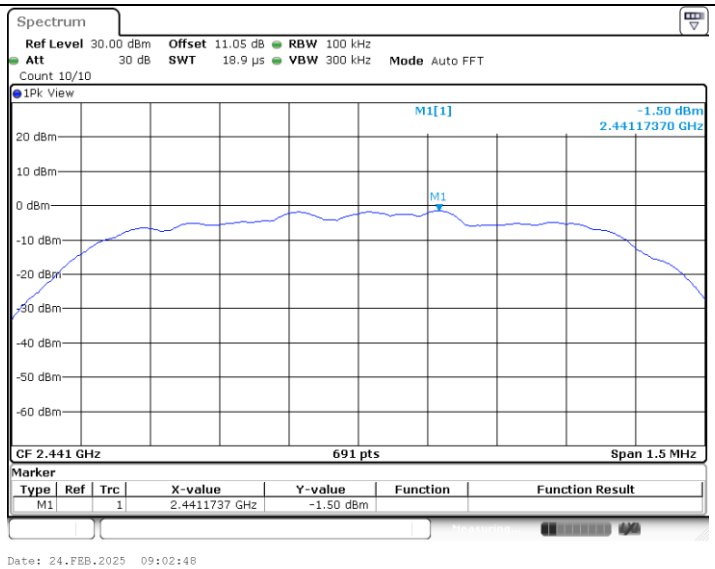


3DH5_Ant1_2402_1000~26500

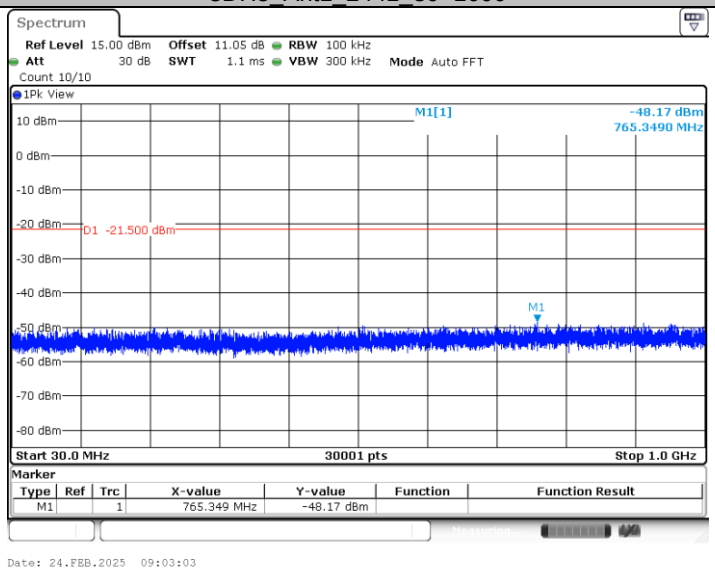


3DH5_Ant1_2441_0~Reference

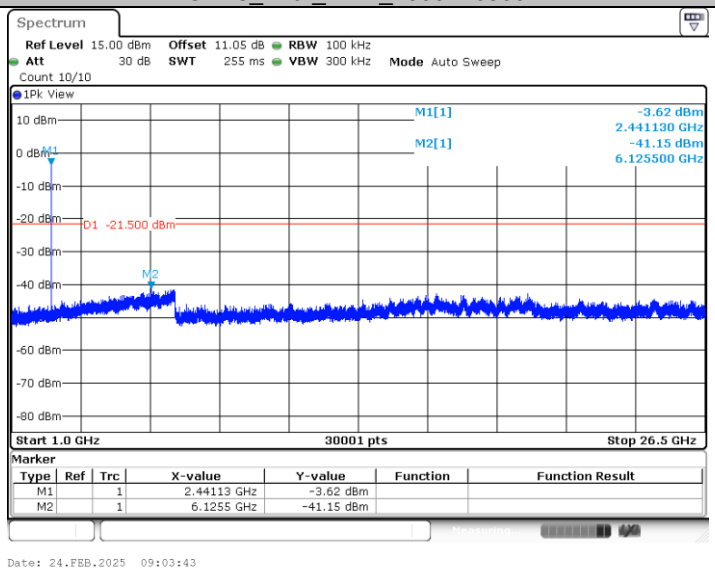
For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn



3DH5_Ant1_2441_30~1000

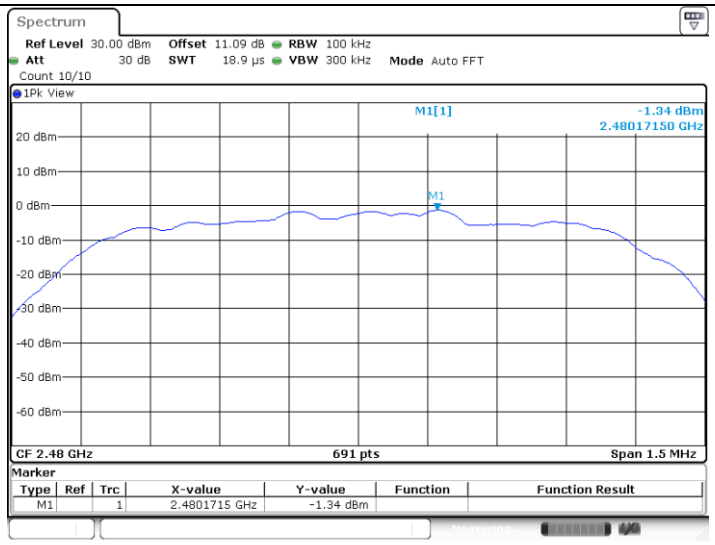


3DH5_Ant1_2441_1000~26500

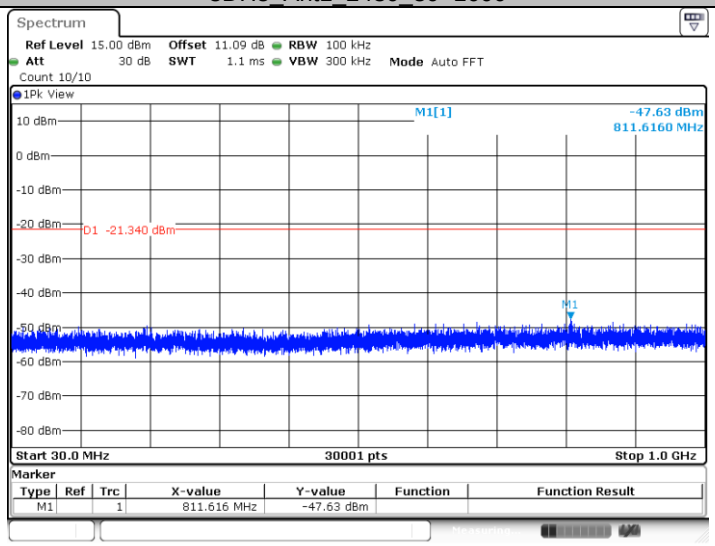


3DH5_Ant1_2480_0~Reference

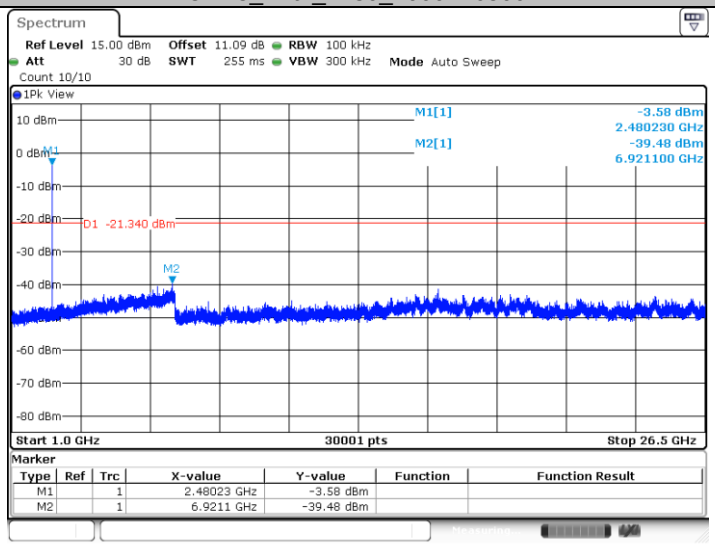
For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn



3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000~26500



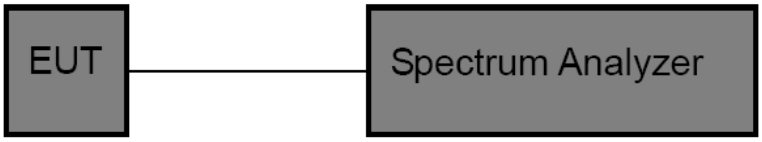
For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

3.5. 20dB Bandwidth

Limit

N/A

Test Configuration



Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. OCB and 20dB Spectrum Setting:
   (1) Set RBW = 1% ~ 5% occupied bandwidth.
   (2) Set the video bandwidth (VBW) ≥ 3 RBW.
   (3) Detector = Peak.
   (4) Trace mode = Max hold.
   (5) Sweep = Auto couple.

Note: The EUT was set to continuously transmitting in each mode and low, Middle and high channel for the test.

Test Mode

Please refer to the clause 2.4.

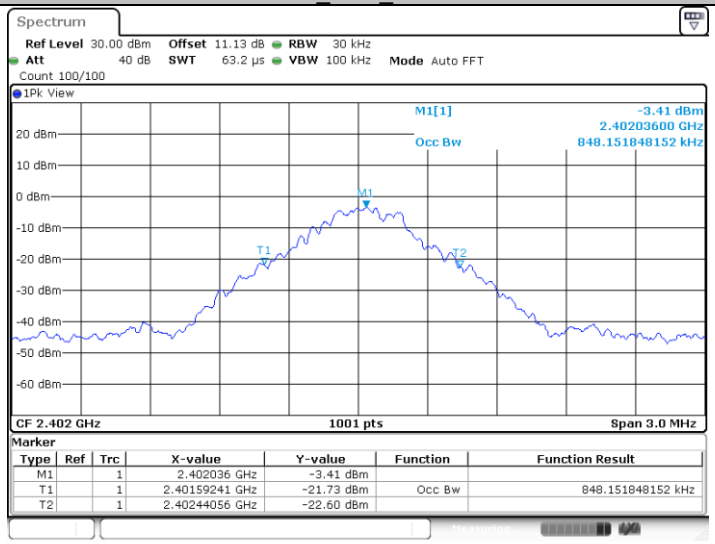
Test Result

Test Mode	Frequency (MHz)	99% Bandwidth (MHz)	20dB Bandwidth (MHz)	20dB Bandwidth *2/3 (MHz)
GFSK	2402	0.848	0.94	0.627
	2441	0.845	0.94	0.627
	2480	0.845	0.94	0.627
π/4-DQPSK	2402	1.181	1.29	0.860
	2441	1.187	1.29	0.860
	2480	1.181	1.29	0.860
8-DPSK	2402	1.187	1.30	0.867
	2441	1.187	1.30	0.867
	2480	1.184	1.30	0.867

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

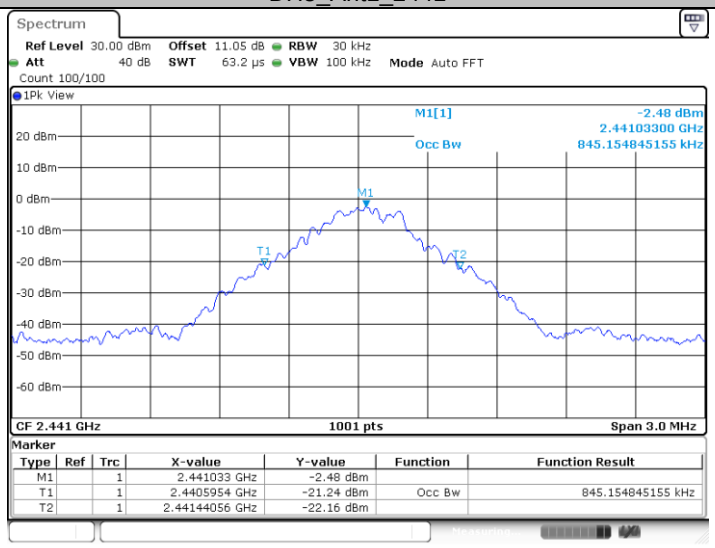
99% Bandwidth:

DH5_Ant1_2402



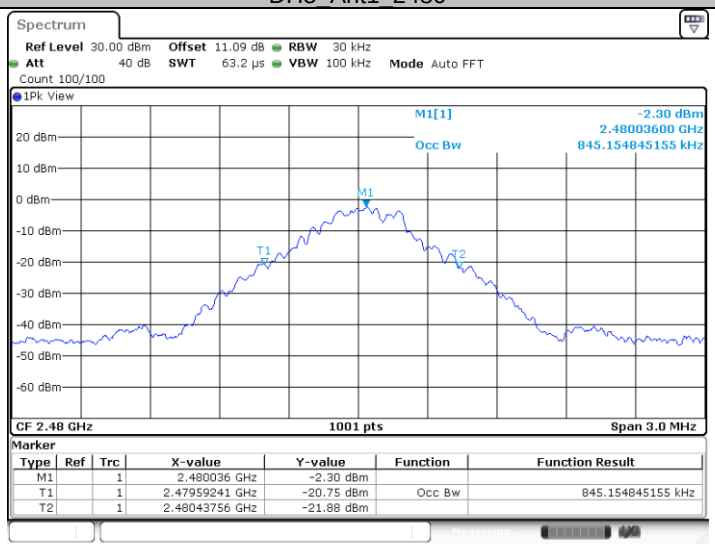
Date: 24.FEB.2025 08:30:39

DH5_Ant1_2441



Date: 24.FEB.2025 08:33:33

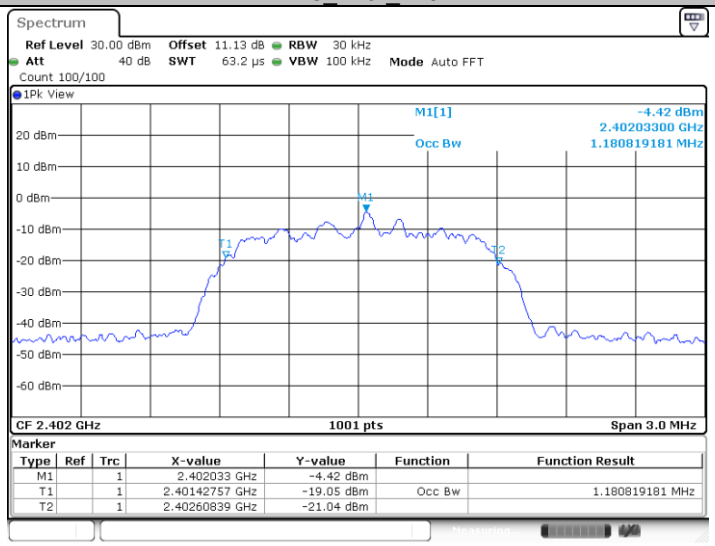
DH5_Ant1_2480



Date: 24.FEB.2025 08:35:52

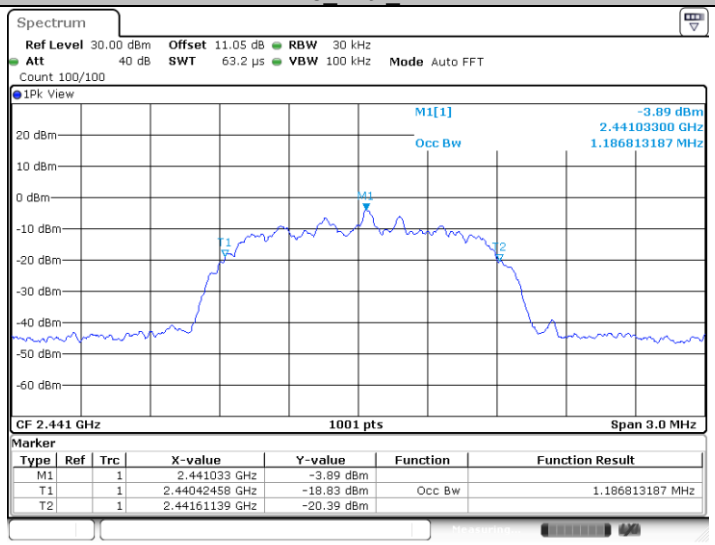
For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

2DH5_Ant1_2402



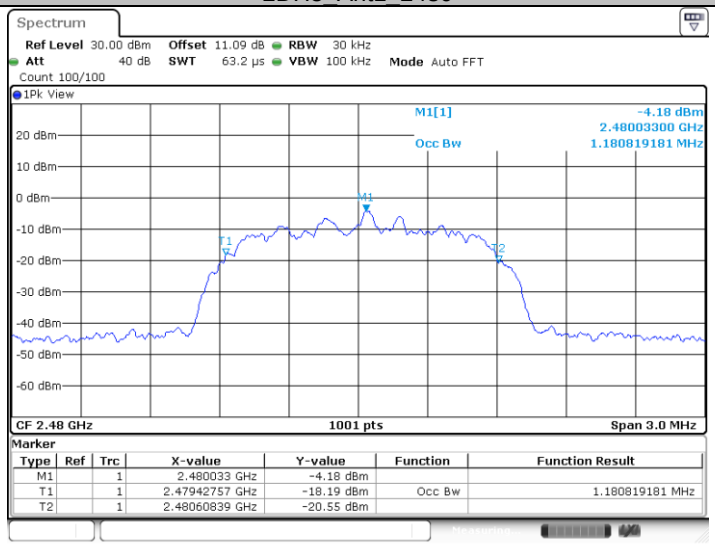
Date: 24.FEB.2025 08:38:56

2DH5_Ant1_2441



Date: 24.FEB.2025 08:55:22

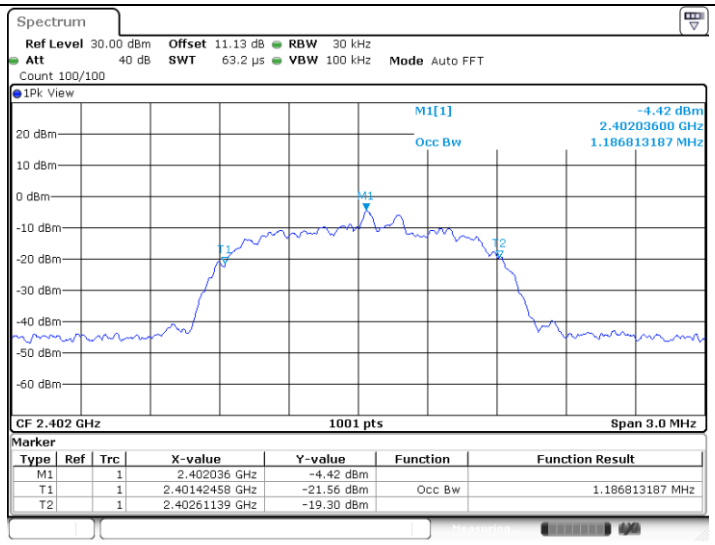
2DH5_Ant1_2480



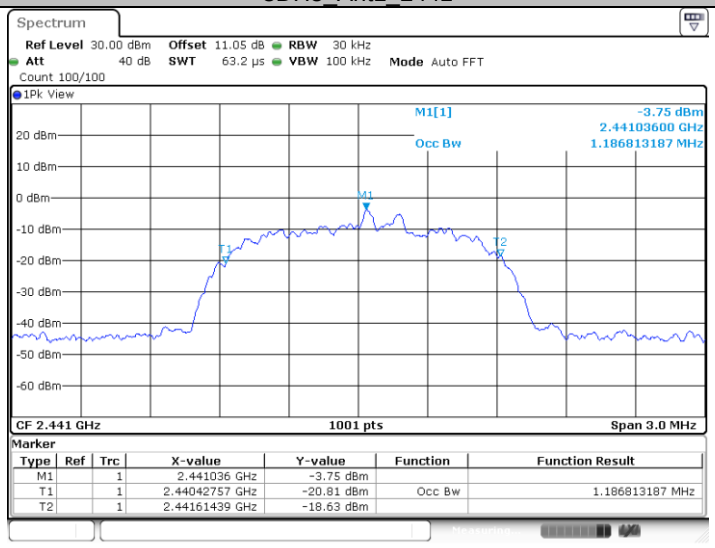
Date: 24.FEB.2025 08:57:40

3DH5_Ant1_2402

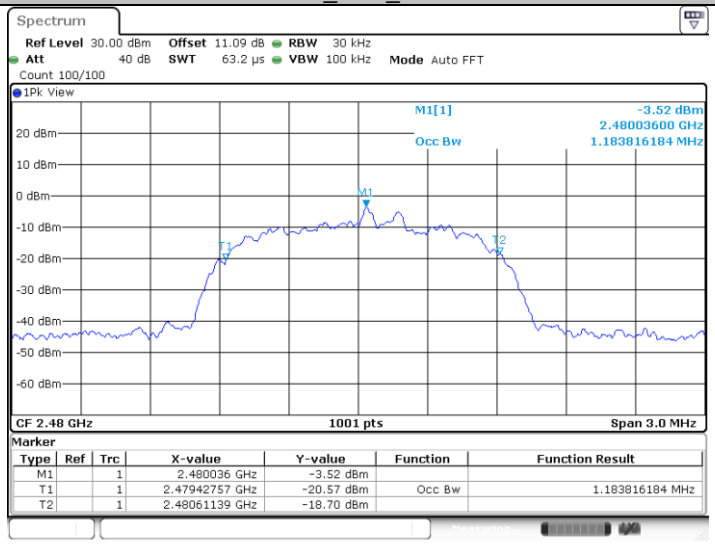
For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn



3DH5_Ant1_2441



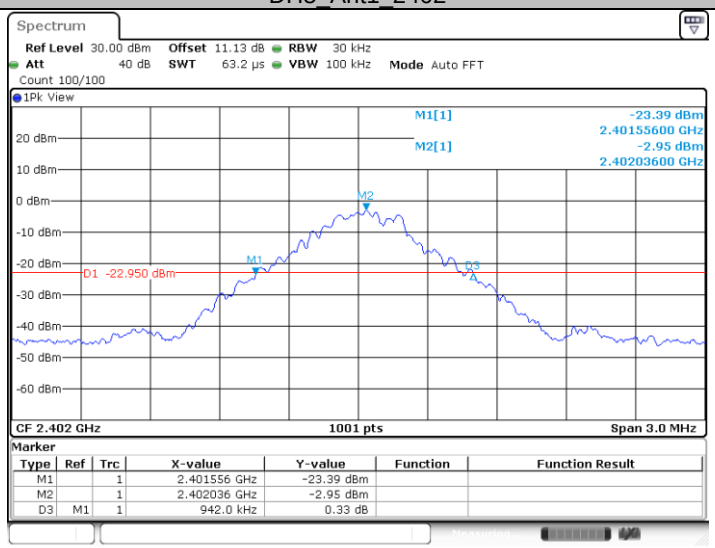
3DH5_Ant1_2480



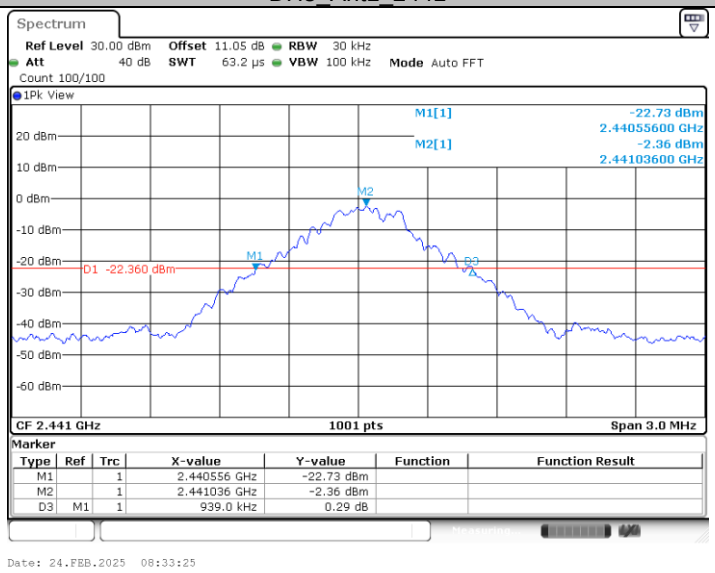
For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

20dB Bandwidth:

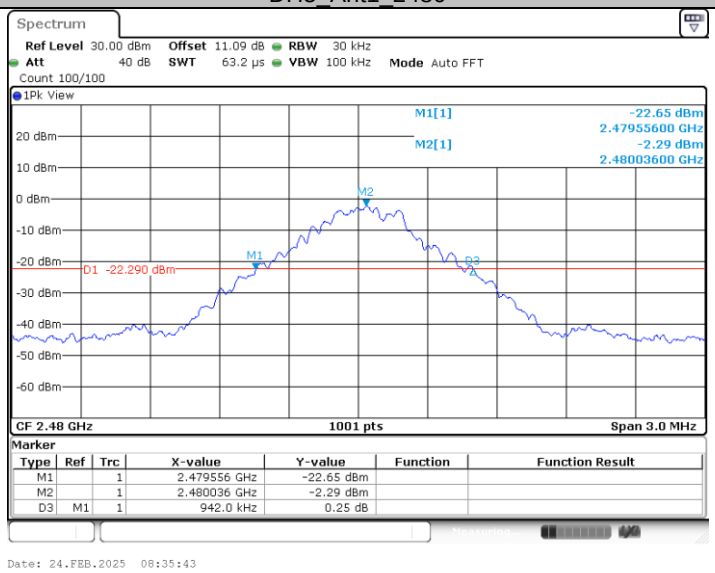
DH5_Ant1_2402



DH5_Ant1_2441

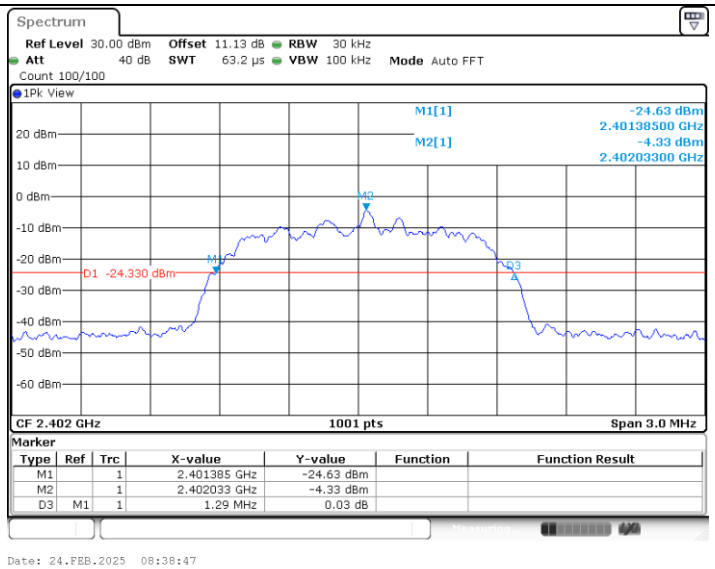


DH5_Ant1_2480

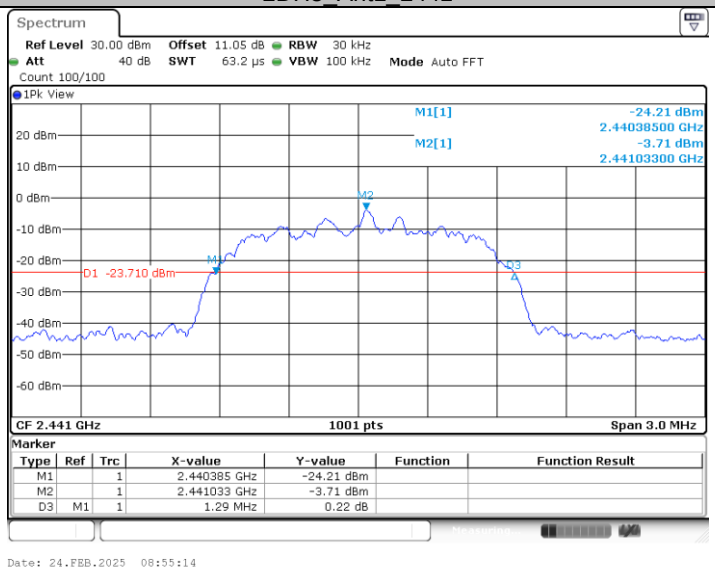


2DH5_Ant1_2402

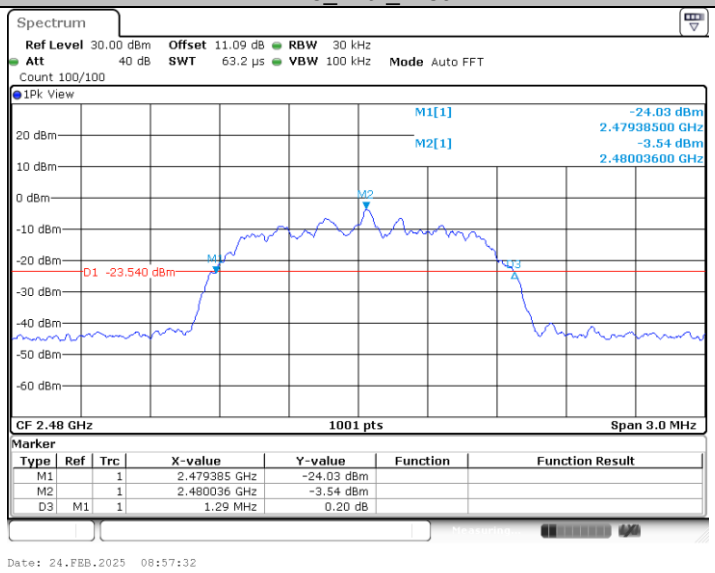
For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn



2DH5_Ant1_2441

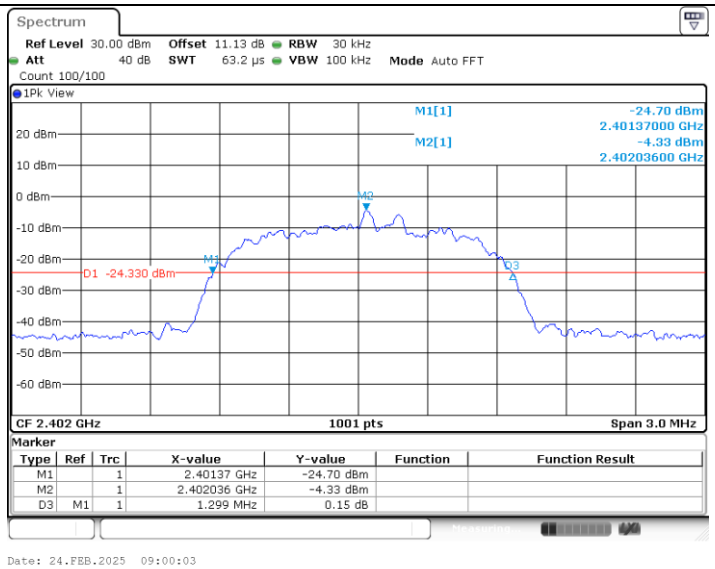


2DH5_Ant1_2480

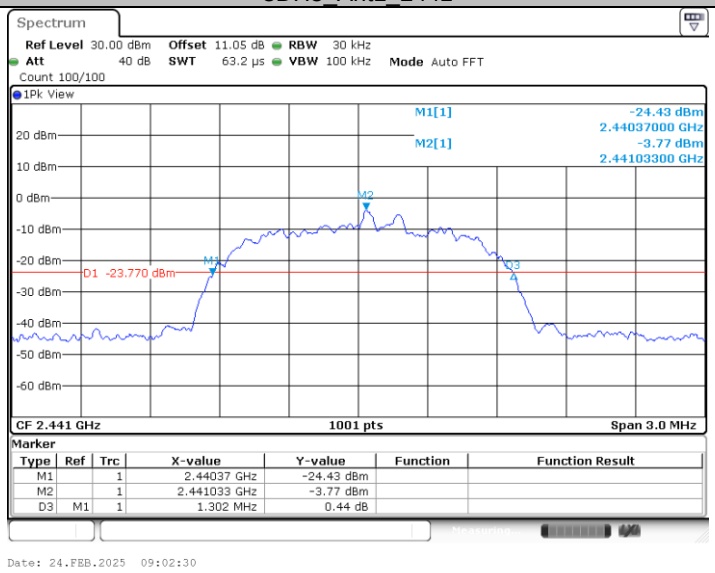


3DH5_Ant1_2402

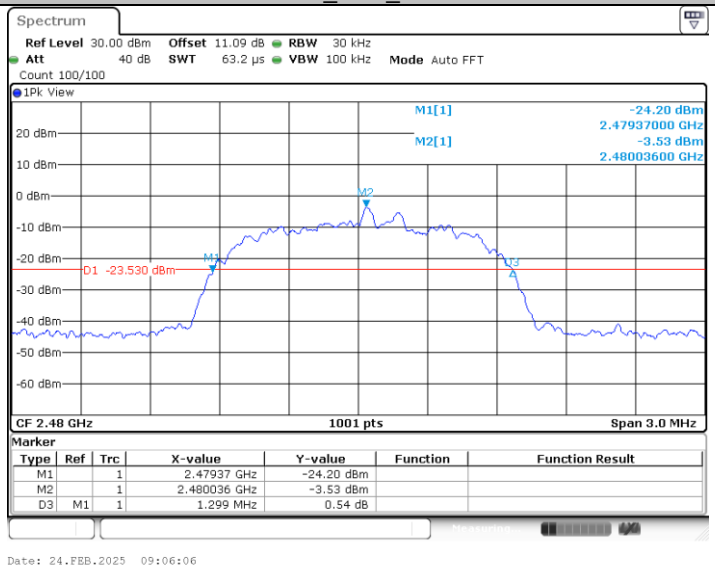
For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn



3DH5_Ant1_2441



3DH5_Ant1_2480



For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

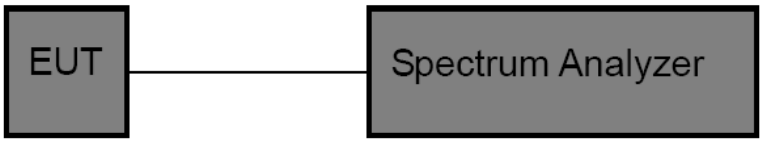
3.6. Channel Separation

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a)(1)

Test Item	Limit	Frequency Range (MHz)
Channel Separation	>25kHz or >two-thirds of the 20 dB bandwidth Which is greater	2400~2483.5

Test Configuration



Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. Spectrum Setting:
   (1) Set RBW = 100 kHz.
   (2) Set the video bandwidth (VBW) ≥ 3 RBW.
   (3) Detector = Peak.
   (4) Trace mode = Max hold.
   (5) Sweep = Auto couple.

Test Mode

Please refer to the clause 2.4.

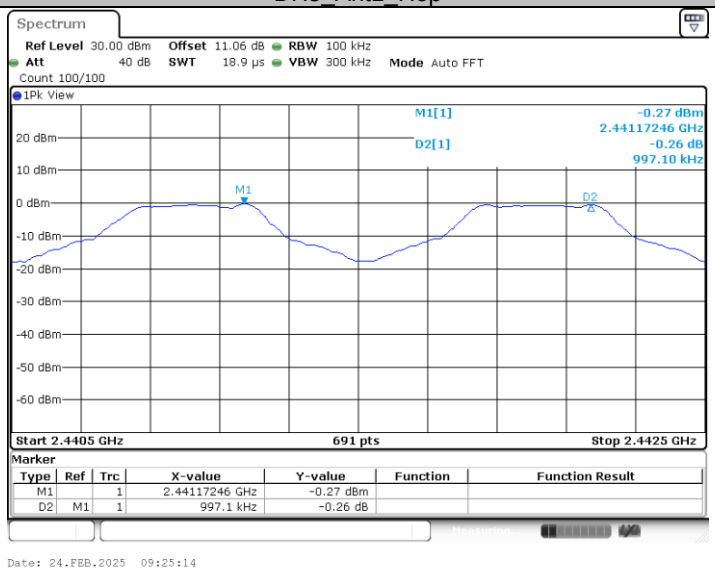
Test Result

Test Mode	Frequency (MHz)	Carrier Frequencies Separation (MHz)	Limit (MHz)	Verdict
GFSK	Hop_2441	0.997	>0.627	Pass
π/4-DQPSK	Hop_2441	1	>0.860	Pass
8-DPSK	Hop_2441	1.003	>0.867	Pass

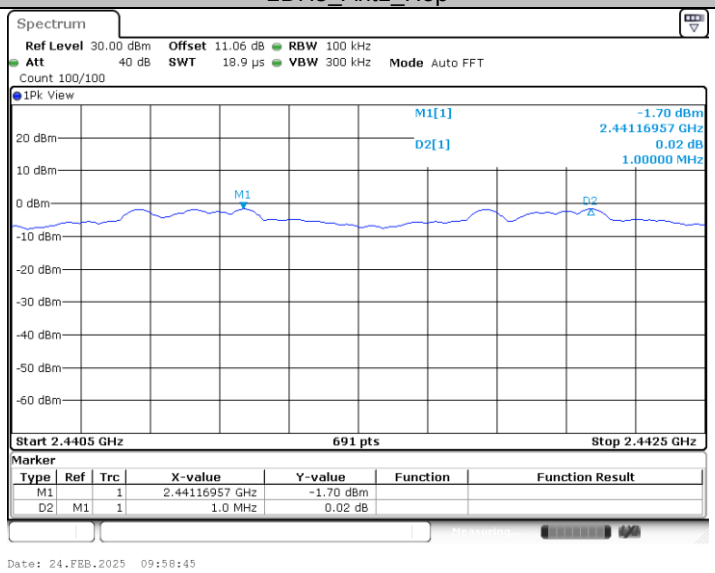
For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Test plot as follows:

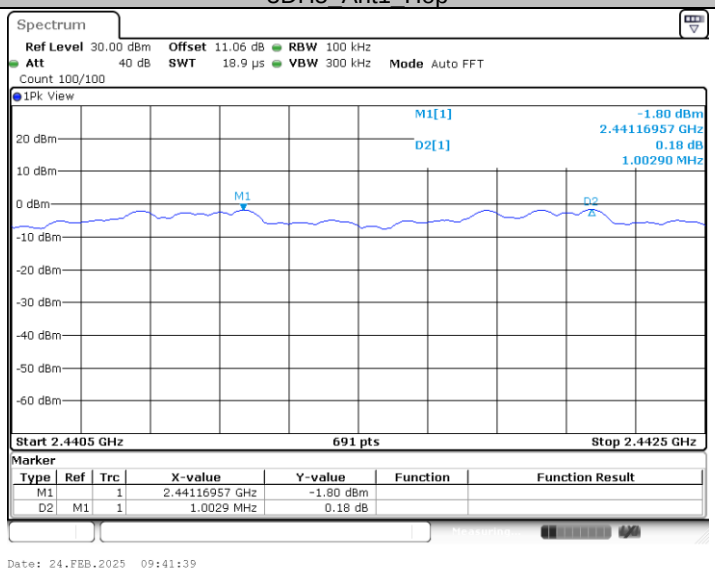
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop



For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

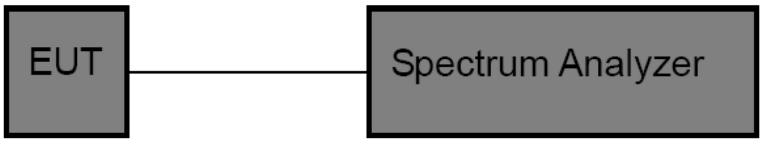
3.7. Number of Hopping Channel

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a)(iii)

Section	Test Item	Limit
15.247 (a)(iii) RSS-247 5.1 d	Number of Hopping Channel	⩾15

Test Configuration



Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. Spectrum Setting:
   (1) Peak Detector: RBW=100 kHz, VBW≥RBW, Sweep time= Auto.

Test Mode

Please refer to the clause 2.4.

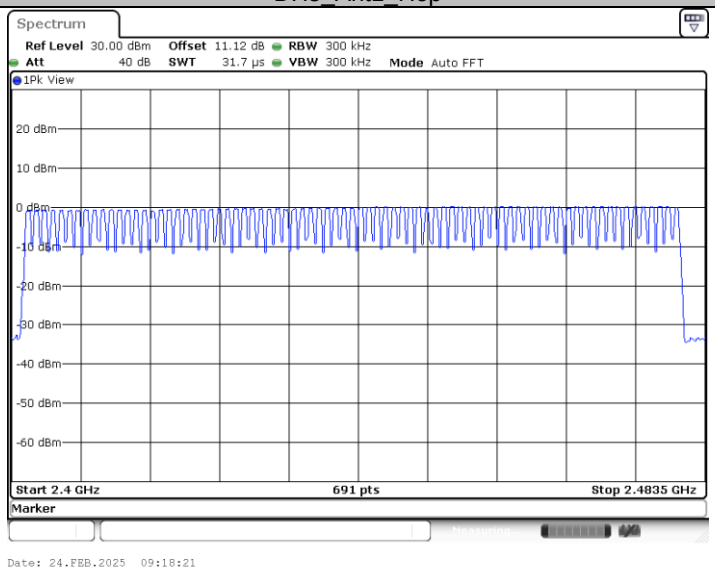
Test Result

Test Mode	Channel Number	Limit	Verdict
GFSK	79	≥15	Pass
π/4-DQPSK	79	≥15	Pass
8-DPSK	79	≥15	Pass

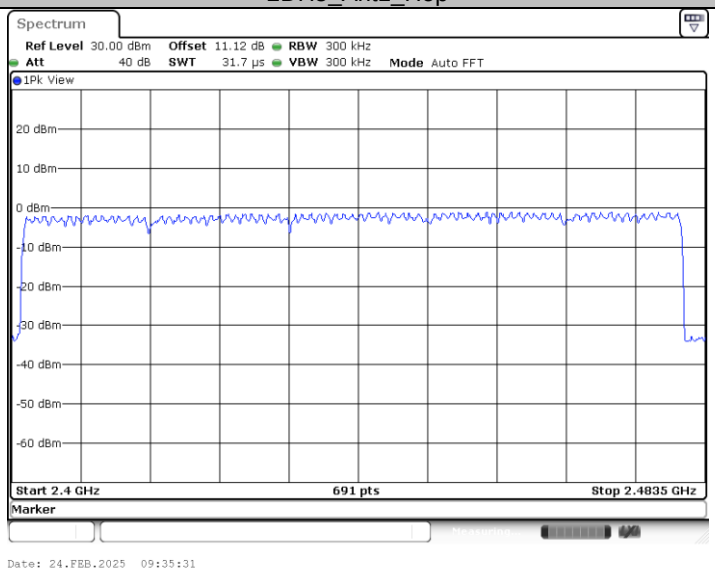
For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Test plot as follows:

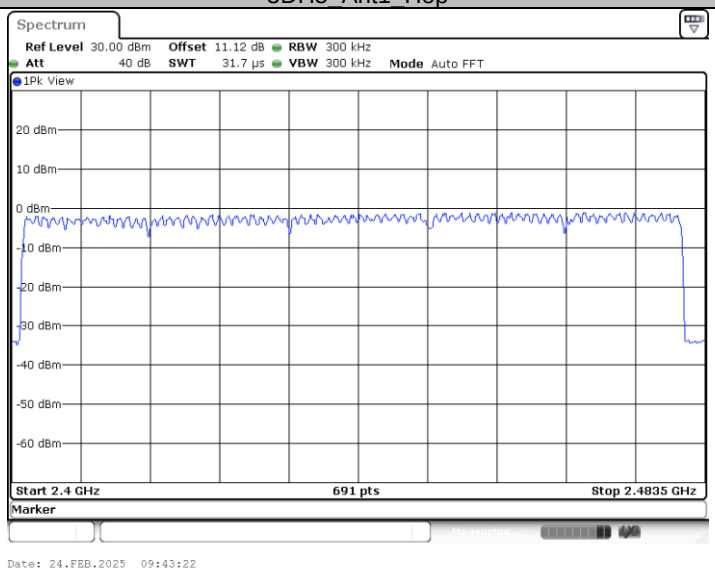
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop



For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn